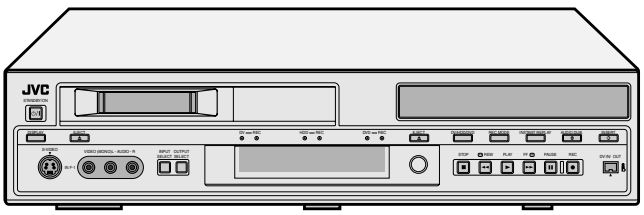
JVC

Mini DV & HDD & DVD VIDEO RECORDER

SR-DVM600U



DVD VIDEO RAM/RW RW 2

HDD

dts DIGITAL OUT

COMPACT disc SUPER VIDEO

Mini DV NTSC

DOLBY DIGITAL STEREO CREATOR

For Customer Use:
Enter below the Model No. and Serial No. which are located on the rear of cabinet. Retain this information for future reference.

Model No. _____

Serial No. _____

INSTRUCTIONS

LPT1138-001A

EN

Dear Customer,
Thank you for purchasing the JVC Mini DV & HDD & DVD video recorder. Before use, please read the safety information and precautions to ensure safe use of your new unit.

Cautions

CAUTION	AVIS
RISK OF ELECTRIC SHOCK DO NOT OPEN	RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION:
A UNIT IS A CLASS 1 LASER PRODUCT. HOWEVER THIS UNIT USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE UNIT CORRECTLY AS INSTRUCTED.

WHEN THIS UNIT IS PLUGGED INTO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS UNIT.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CLASS 1 LASER PRODUCT

REPRODUCTION OF LABELS
WARNING LABEL INSIDE OF THE UNIT

CAUTION	ATTENTION	ADVARSEL	ADVARSEL	VARO!	VARNING
VISIBLE AND/OR INVISIBLE CLASS 1M LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.	RAYONNEMENT LASER VISIBLE ET/OU INVISIBLE DE CLASSE 1M UNE FOIS OUVERT. NE PAS FIXER LE FAISCEAU NI REGARDER DIRECTEMENT AVEC DES INSTRUMENTS OPTIQUES.	SYNLIG OG/ELLER USYNLIG KLASSE 1M-LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN – HELLER IKKE MED OPTISKE INSTRUMENTER.	SYNLIG OG/ELLER USYNLIG LASERSTRÅLING I KLASSE 1 M NÅR DEKSEL ÅPNES. IKKE STIRR INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER.	AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA/TAI NÄKYMÄTTÖMÄLLE LUOKAN 1M LASERSÄTEILYLLE. ÄLÄ KATSO SUORAAN SÄTEESEEN TAI TARKASTELE SITÄ OPTISEN LAITTEEN LÄPI.	SYNLIG OCH/ELLER OSYNLIG LASERSTRÅLNING, KLASS 1M, NÄR DENNA DEL ÄR ÖPPNAD. STIRRA EJ IN I STRÅLEN OCH BETRAKTA EJ STRÅLEN MED OPTISKA INSTRUMENT. LP41295-001A

OR

CAUTION	ATTENTION	ADVARSEL	ADVARSEL	VARO!	VARNING
CLASS 1M LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. CAUTION LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. (EN)	ÉMET UN RAYONNEMENT LASER DE CLASSE 1 M LORQUE OUVERT. NE PAS REGARDER DIRECTEMENT À TRAVERS DES INSTRUMENTS D' OPTIQUES. (FR)	KLASSE 1 M-LASERSTRÅLING NÅR ÅPNET. IKKE SE DIREKTE INN I OPTISKE INSTRUMENTER. (NO)	KLASSE 1 M LASERSTRÅLING NÅR APPARATET ÅBNES. KIG IKKE DIREKTE PÅ STRÅLEN MED OPTISKE INSTRUMENTER. (DA)	LUOKAN 1 M LASERSÄTEILY LAITTEEN SISÄLLÄ. ÄLÄ KATSO SÄTEESEEN SUORAAN OPTISILLA LAITTEILLA. (FI)	KLASS 1 M LASERSTRÅLNING NÄR DEN ÄR ÖPPEN. TITTA INTE DIREKT PÅ DEN MED OPTISKA INSTRUMENT. (SW) LP41334-001A

This unit apply to the standard “IEC60825-1:2001” for laser products.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION:
This unit should be used with AC 120V∿, 60Hz only.
To prevent electric shocks and fire hazards, DO NOT use any other power source.

CAUTION:
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:
POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU’AU FOND.

Note to CATV system installer:
This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

CAUTION:
Changes or modifications not approved by JVC could void user’s authority to operate the equipment.

Declaration of Conformity

Model Number:	SR-DVM600U
Trade Name:	JVC
Responsible Party:	JVC Americas Corp.
Address:	1700 Valley Road Wayne, N.J. 07470
Telephone Number:	973-317-5000

This device complies with Part 15 of FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IMPORTANT PRODUCT SAFETY INSTRUCTIONS

Electrical energy can perform many useful functions. But improper use can result in potential electrical shock or fire hazards. This product has been engineered and manufactured to assure your personal safety. In order not to defeat the built-in safeguards, observe the following basic rules for its installation, use and servicing.

ATTENTION:
Follow and obey all warnings and instructions marked on your product and its operating instructions. For your safety, please read all the safety and operating instructions before you operate this product and keep this booklet for future reference.

INSTALLATION

1. Grounding or Polarization

(A) Your product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.
If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

(B) Your product may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature.
If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

2. Power Sources

Operate your product only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. If your product is intended to operate from battery power, or other sources, refer to the operating instructions.

3. Overloading

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

4. Power Cord Protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

5. Ventilation

Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.

- Do not block the openings by placing the product on a bed, sofa, rug or other similar surface.
- Do not place the product in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

6. Wall or Ceiling Mounting

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

ANTENNA INSTALLATION INSTRUCTIONS

1. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding connectors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

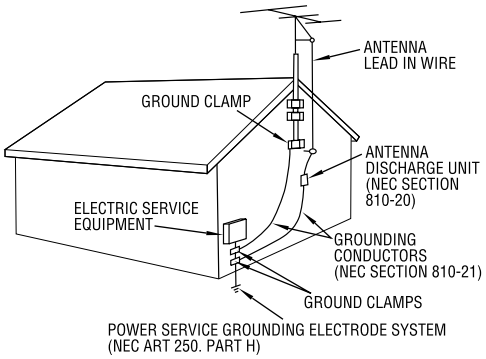
2. Lightning

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

3. Power Lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE, ANSI/NFPA 70


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250. PART H)

NEC – NATIONAL ELECTRICAL CODE

USE

1. **Accessories**
   To avoid personal injury:
   - Do not place this product on an unstable cart, stand, tripod, bracket, or table. It may fall, causing serious injury to a child or adult, and serious damage to the product.
   - Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product.
   - Use a mounting accessory recommended by the manufacturer and follow the manufacturer's instructions for any mounting of the product.
   - Do not try to roll a cart with small casters across thresholds or deep-pile carpets.
2. **Product and Cart Combination**
   A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

   PORTABLE CART WARNING
   (Symbol provided by RETAC)

3. **Water and Moisture**
   Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool and the like.
4. **Object and Liquid Entry**
   Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
5. **Attachments**
   Do not use attachments not recommended by the manufacturer of this product as they may cause hazards.
6. **Cleaning**
   Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
7. **Heat**
   The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

SERVICING

1. **Servicing**
   If your product is not operating correctly or exhibits a marked change in performance and you are unable to restore normal operation by following the detailed procedure in its operating instructions, do not attempt to service it yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
2. **Damage Requiring Service**
   Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the product.
c. If the product has been exposed to rain or water.
d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
e. If the product has been dropped or damaged in any way.
f. When the product exhibits a distinct change in performance—this indicates a need for service.

3. **Replacement Parts**
   When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or which have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
4. **Safety Check**
   Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in safe operating condition.

HOW TO USE THIS INSTRUCTION MANUAL

- All major sections and subsections are listed in the Table Of Contents on page 6. Use this when searching for information on a specific procedure or feature.
- The Index on pages 12 – 15 illustrates the controls and connections on the front and rear panel, the front display panel and the remote control.
- The list of terms on page 71 lists frequently-used terms, and the number of the page on which they are used or explained in the manual.
- The ☞ mark signals a reference to another page for instructions or related information.
- Operation buttons necessary for the various procedures are clearly indicated through the use of illustrations at the beginning of each major section.

BEFORE YOU INSTALL YOUR NEW UNIT . . .

. . . please read the sections/literature listed below.

- "Cautions" on page 2
- "IMPORTANT PRODUCT SAFETY INSTRUCTIONS" on pages 3 – 4

- Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
- "DTS" and "DTS DIGITAL OUT" are trademarks of Digital Theater Systems, Inc.
- This unit can play back and record only NTSC signals. PAL signals can also be played back on the DVD deck.
- This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

When the equipment is installed in a cabinet or a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear).

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

Failure to heed the following precautions may result in damage to the unit, remote control or disc/cassette.

1. **DO NOT place the unit** —
   — in an environment prone to extreme temperatures or humidity.
   — in direct sunlight.
   — in a dusty environment.
   — in an environment where strong magnetic fields are generated.
   — on a surface that is unstable or subject to vibration.
2. **DO NOT block the unit's ventilation openings or holes.** (If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)
3. **DO NOT place heavy objects on the unit or remote control.**
4. **DO NOT place anything which might spill on top of the unit or remote control.** (If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)
5. **DO NOT expose the apparatus to dripping or splashing.**
6. **DO NOT use this equipment in a bathroom or places with water.** Also **DO NOT** place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups, etc.) on top of this unit.
7. **DO NOT place any naked flame sources, such as lighted candles, on the apparatus.**
8. **AVOID violent shocks to the unit during transport.**

MOISTURE CONDENSATION

Moisture in the air will condense on the unit when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form on the surface of a glass filled with cold liquid. In conditions where condensation may occur, disconnect the unit's power plug from the wall and keep it disconnected for a few hours to let the moisture dry, then turn on the unit.

DISCLAIMER OF LIABILITY

JVC shall not be liable for any loss relating to the unit's failure to properly record, store or playback any content (video, audio or otherwise) for any reason whatsoever. Any applicable warranties shall only cover replacement or repair of the effected unit, and shall not apply to recovery or replacement of lost content.

ATTENTION:

- Using a mobile phone in the vicinity of the unit may cause picture vibration on the TV screen or change the screen to a black back display.
- Some TVs or other appliances generate strong magnetic fields. Do not place such appliances on top of the unit as it may cause picture disturbance.
- When moving the product, press ⏻/| to turn off the power, and wait at least 30 seconds before unplugging the power cord. Then, wait at least 2 minutes before moving the product.
- If there is a power outage when using the unit, the recorded data may be erased.
- It is recommended to back up discs which contain important recordings periodically (every few years). As digital signals do not deteriorate, failure to play back or record might arise due to the effects of the disc aging through the years depending on the storage environment.
- Recorded programs and data cannot be restored once the disc or tape is damaged.

SAFETY FIRST 2

DISC INFORMATION 7

About Discs 7
Life Span Of Parts 11

INDEX 12

INSTALLING YOUR NEW UNIT 18

Basic Connections 18

INITIAL SETTINGS 19

Clock Set 19
Language 20
Monitor Set 21

BASIC OPERATIONS ON DVD DECK 22

Basic Playback 22
Playback Features 23
Using The On-screen Bar 27

BASIC OPERATIONS ON HDD DECK 31

Basic Playback 31
Playback Features 31

BASIC OPERATIONS ON DV DECK 33

Basic Playback 33
Playback Features 34

LIVE MEMORY PLAYBACK ON HDD/DVD DECK 35

Live Memory Playback 35

NAVIGATION ON HDD/DVD DECK 38

Library Database Navigation 38
Edit Original Information 39
Edit Play List Information 41
Navigate Library Information 43
Playback With MP3/WMA/JPEG Navigation 44

EDITING 45

Dubbing 45
DV Dubbing (HDD & DVD Deck Only) 49
Edit From A Camcorder 51
Edit To Or From Another Recorder 52
Digital Audio Dubbing 53
Audio Dubbing (DV Deck Only) 54
Insert Editing (DV Deck Only) 55

REMOTE CONTROL 56

Remote Control Functions 56

SYSTEM CONNECTIONS 57

Connecting To A Dolby Digital Decoder Or An Amplifier With Built-in DTS 57

SUBSIDIARY SETTINGS 58

Mode Set 58
Format A Disc (DVD Deck Only) 61
Finalize A Disc (DVD Deck Only) 62
Setting The Background 64
Scan Mode Set (HDD & DVD Deck Only) 65
Tray Lock (DVD Deck Only) 65
Mode Lock 65
Last Function Memory 65

TROUBLESHOOTING 66

APPENDIX 69

SPECIFICATIONS 70

LIST OF TERMS 71

About Discs

Recordable/Playable Discs

You can use discs with the following logos for recording and playback.

DVD-RAM 12 cm: 4.7 GB/9.4 GB 8 cm: 1.4 GB/2.8 GB Ver. 2.0/2x speed Ver. 2.1/1x – 3x speed	**DVD-RW** 12 cm: 4.7 GB/9.4 GB Ver. 1.1/1x – 2x speed (Video mode/VR mode) Ver. 1.2/4x speed (Video mode/VR mode)
DVD-R 12 cm: 4.7 GB 8 cm: 1.4 GB Ver. 2.0/1x – 4x/8x speed (Video mode/VR mode) Ver. 2.1/16x speed (Video mode/VR mode)	

- The above table is based on the information as of August 2006.
- Recording and playback may not be performed depending on the characteristics and condition of the disc used, leading to unsatisfactory results. Using discs manufactured by JVC is recommended since they have been tested to be compatible with this unit.

DVD-RAM Discs

It is only possible to use discs which conform with DVD-RAM standard Version 2.0 or 2.1.

- It is impossible to record on DVD-RAM discs which do not conform to this standard. If you use a disc formatted under a different standard version, format it on this unit before use.
- It may not be possible to record, play back, edit or dub a DVD-RAM disc even if it conforms to the standard if it was recorded or edited on the devices from other manufacturers or on a PC, or if it has far too many titles, or if there is very little available capacity remaining on the disc.
- DVD-RAM discs recorded on this unit cannot be played back on an incompatible DVD player.
- It is possible to record copy-once programs of digital broadcasts only onto 4.7/9.4 GB DVD-RAM discs (2.8 GB DVD-RAM discs are not compatible).

DVD-R/RW Discs

It is only possible to use DVD-R discs which conform with DVD-R standard Version 2.0.

When a DVD-R/RW disc (Video mode) is finalized (☞ pg. 62), it can be played back on a standard DVD player as a DVD VIDEO disc.

When a DVD-R/RW disc (VR mode) is finalized (☞ pg. 62), it can be played back on a standard DVD player compatible with the VR mode of DVD-R/RW discs.

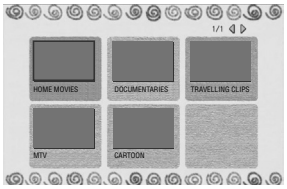
Before finalizing —

— it is possible to record on unrecorded areas of the disc, edit the disc title and program titles, and delete programs.

- It is impossible to record or edit DVD-R/RW discs recorded on other devices even if they have not been finalized.
- It is impossible to overwrite recorded areas of DVD-R discs.
- Available recording capacity does not increase even if a recorded program is deleted from a DVD-R disc.

After finalizing —

After a DVD-R/RW disc (Video mode) has been finalized, it is possible to play back the recorded programs (video and/or audio) on a standard DVD video player as a DVD VIDEO disc.



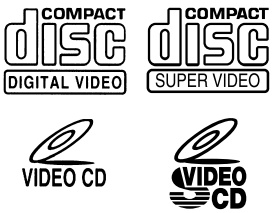
- Edited titles are displayed as the "DVD menu" in video mode.
- It is impossible to record, edit or delete the data either in video mode or in VR mode.
- Either in video mode or in VR mode, although the disc can be played back on DVD players from other manufacturers, sometimes it may not be possible to play back depending on the disc and recording conditions.
- It is impossible to record on CD-R/RW or DVD-R discs used for authoring.
- It is impossible to record onto DVD-R/RW (Video mode) discs broadcasts that allow you to copy once. The copy once programs can only be recorded onto DVD-R/RW discs formatted in VR mode.

NOTES:

- The following may result if you play back a DVD-R disc recorded on another unit.
  - The disc does not play.
  - A mosaic pattern (block noise) appears on the screen.
  - Video or audio may be dropped out.
  - The unit stops during playback.
- 6x speed DVD-RW disc cannot be used on this unit.

Discs For Playback Only

You can use discs with the following logos for playback only.

DVD VIDEO (example of region code indications) 	**Video CD/Super Video CD** 
Audio CD CD-DA files	**CD-R** CD-DA/JPEG/ MP3/WMA files
CD-RW CD-DA/JPEG/ MP3/WMA files	**CD-ROM** JPEG/MP3/ WMA files

- Playback may not be performed depending on the characteristics and condition of the disc used.
- DTS Audio CDs can also be played back (An optional DTS decoder is required).
- MP3 and JPEG discs can be played back on this unit only when they have been recorded in the ISO9660 or Joliet format and finalized.
- JPEG files that can be played back on this unit must conform to JFIF/Baseline process, and the maximum resolution of a JPEG file is 2,812 pixels in width and 2,112 pixels in height.
- CD-R/RW discs recorded in music CD format need to be finalized to play back on this unit.
- Operation and audio quality of this unit are not guaranteed for discs that do not conform to the Compact Disc specification (CD-DA).
  Before you play back a CD, check for the CD logo and read the notes on the package to confirm that it conforms to the Compact Disc specification.
- Depending on the intentions of the author of the software, recording conditions of DVD discs and Video CD/SVCD discs may be restricted. Since this unit plays back discs according to the intentions of the author of the software as indicated on the disc, some functions may not operate as commanded.
- When switching from the first layer to the second layer of double-layered DVD VIDEO discs, the image and sound may be momentarily distorted. This is not a malfunction.
- DVD-AUDIO discs compatible with DVD video players can be played.
- Super Audio CDs (SACD) compatible with conventional CD players can be played.
- +R/+RW discs recorded and finalized in Video mode can be played. “DVD” will light on the front display panel.

Unplayable Discs

The following types of discs cannot be played using this unit.
Do not attempt to play back any kind of disc that is damaged (cracked, warped, or repaired with adhesive tape) or discs in unusual shapes (heart-shaped, octagonal, or other forms). If such discs are accidentally played back, it may cause noise that can lead to speaker damage.

- CD-ROM discs (including PHOTO-CD and CD-G)
- Discs recorded in Packet Write (UDF) format
- 1.3-GB double density CDs (DDCD)
- High density CDs (HDCD)

The following discs also cannot be played back.

- Discs of a region number other than “1”
- DVD-RAM (2.6 GB/5.2 GB)
- DVD-RAM (TYPE1)

Caution for DualDisc playback

The Non-DVD side of a “DualDisc” does not comply with the “Compact Disc Digital Audio” standard. Therefore, the use of Non-DVD side of a DualDisc on this product may not be recommended.

Region Number

The world is divided into 6 regions for DVD VIDEO discs.
DVD VIDEO discs are assigned a region number to indicate which region they may be played back in. A disc cannot be played back on this unit unless the region number of the disc matches that of the unit. The region number for this unit is “1”. Only discs whose region number includes “1” or “ALL” can be played back such as shown below.

Examples of DVD VIDEO labels which can be played back using this unit.

Marks of discs in this instruction manual

DVD RAM — Allows operation with a DVD-RAM disc.	VCD SVCD — Allows operation with a Video CD/Super Video CD (SVCD) disc.
DVD R — Allows operation with a DVD-R disc.	Audio CD — Allows operation with an Audio CD disc.
DVD RW — Allows operation with a DVD-RW disc.	MP3 — Allows operation with a disc including MP3 files.
DVD VIDEO — Allows operation with a DVD VIDEO disc.	JPEG — Allows operation with a disc including JPEG files.

Recording Medium And Format

DVD-RAM
- Recording and erasing can be performed as many times as possible on a disc.
- Editing can be performed after recording, such as deleting unwanted parts.
- While recording, it is possible not only to start playback of a program currently being recorded, but also to watch another program previously recorded.

DVD-RW (VR mode)
- Recording and erasing can be performed as many times as possible on a disc.
- Editing can be performed after recording, such as deleting unwanted parts.
- Recording of copy once programs are possible using a CPRM compatible disc.

DVD-RW (Video mode)
- Can be played back on other DVD players.
- New recording can be performed by erasing all the data on a disc once played back.

DVD-R (VR mode)
- Editing can be performed after recording, such as deleting unwanted parts.
- Recording of copy once programs are possible using a CPRM compatible disc.

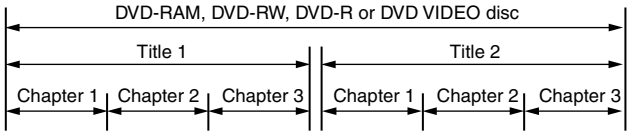
DVD-R (Video mode)
- Can be played back on other DVD players.
- Suitable when keeping a recorded disc for a long time.

File Structure Of Discs

DVD VIDEO
Typically, DVD VIDEO discs are made up of larger units called “titles”. Each title has a number (title number) that can be used to select desired titles. Titles are further divided into units called “chapters”. Each chapter has a number (chapter number) that can also be used to select desired chapters. Note that some discs are not divided into titles and chapters.

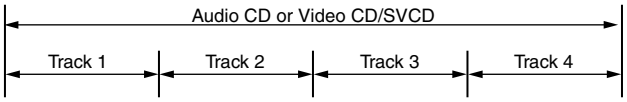
When you record a program on a DVD-RAM/R/RW (VR mode) disc
A single recording session results in a single title (a single chapter). However, chapter marks are automatically inserted when recording is paused, or audio changes from monaural to stereo due to commercial breaks, etc. It is also possible to insert chapter marks at desired locations during playback. (☞ pg. 25)

When you record a program on a DVD-R/RW (Video mode) disc
A single recording session results in a single title (a single chapter). However, chapter marks are automatically inserted when recording is paused, or audio changes due to commercial breaks, etc. It is also possible to insert chapter marks at desired locations during either recording or playback. Once the disc has been finalized, these chapter marks are deleted and new chapter marks are assigned automatically approximately every 5 minutes.



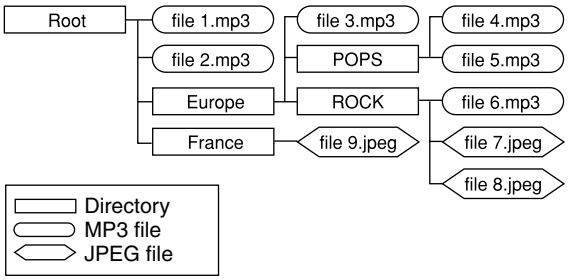
- In Video mode, even before finalizing, it is impossible to perform editing operations other than changing the disc name and/or title names and deleting programs and/or titles.
- After finalizing, it is impossible to perform editing operations.

Audio CD/Video CD/SVCD
Typically, Audio CD discs are divided into separate tracks each containing one song. Each track is assigned a number. For example, the third track is Track 3. The same is true for Video CD/SVCD discs.
However, some discs are not divided into tracks.

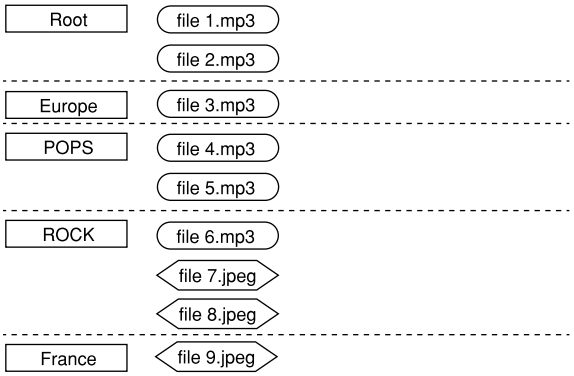


JPEG/MP3 Disc (CD-R/RW/ROM)
MP3/JPEG files put in directories nested in several levels on a disc will be organized as if they were put in single level directories (groups) by the MP3/JPEG Navigation of this unit. (☞ pg. 44)

File structure of a disc before starting the MP3/JPEG Navigation



File structure of the disc after starting the MP3/JPEG Navigation
Files are automatically grouped as follows and displayed on the MP3/JPEG Navigation screen. Data is displayed in the alphabetical order of file name. Files are grouped based on roots.



- This unit can recognize up to 9 hierarchies including directories and files.
  Also, it can recognize up to 250 files in each group, and up to 99 groups on a disc.

NOTES:
- **Video CD/SVCD discs that support Playback Control (PBC)**
  The contents of a disc are recorded into several hierarchies, and played back according to the instructions on the screen while navigating through the hierarchies. It is also possible to playback recorded tracks consecutively without activating the PBC function even when playing a PBC-compatible disc. (☞ pg. 26)
- **Regarding the contents recorded on discs**
  Some files may not be played back depending on the file types and other factors.

DVD VIDEO Marks

Sometimes marks are printed on a DVD disc and/or on its packaging to indicate information regarding the contents and functions of the disc. Check the marks indicating the contents and functions of the disc. Note, however, that in some cases a disc may not include a mark even for a function it supports.

Marks related to video

2	Number of subtitles	3	Number of angles
4:3	Recorded under the standard 4:3 aspect ratio	LB	Screen includes black bands at the top and the bottom of image which has a standard 4:3 aspect ratio (letter box)
16:9 LB	Video playback is in Wide video mode (16:9) on wide televisions, but in letter box on televisions with standard 4:3 aspect ratio.		
16:9 PS	Video playback is in Wide video mode (16:9) on wide televisions, but pan and scan is used on televisions with standard 4:3 aspect ratio (either the left or right side of the image is cut-out).		

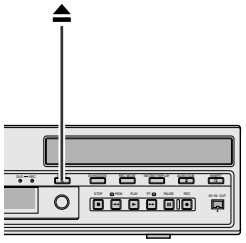
Marks related to audio

3	Number of audio tracks
DOLBY DIGITAL STEREO CREATOR	Dolby Digital Stereo Creator mark Developed by Dolby Laboratories. It enables audio recording in high-quality stereo Dolby Digital.
dts DIGITAL OUT	DTS (Digital Theater Systems) You can enjoy DTS audio if you connect an amplifier with a built-in DTS decoder to the DIGITAL OUT connector of the unit.

Placing A Disc

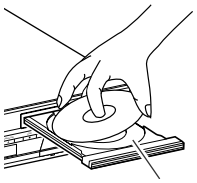
Opening the disc tray

Press ⏏ to open the disc tray.



- Pressing the button again closes the disc tray.
- Use the button to open and close the disc tray.
- Do not block the disc tray with your hand while it is opening or closing as this may result in hardware failure.
- Do not place unplayable discs or any object other than a disc on the disc tray.
- Do not press down strongly on the disc tray or place any heavy objects on it.

Discs without cartridges



Disc tray

Place the disc on the disc tray with the label side facing up. Since disc size changes depending on the disc to be played back, be sure to correctly align the disc with the grooves for its size. If the disc is not in its groove, it may be scratched or otherwise damaged. To insert an 8 cm disc, place it according to the inner groove.

DVD-RAM discs contained in cartridges

Double-sided discs:

Remove the disc from the cartridge. Align the disc with the grooves on the disc tray as shown in the illustration and insert with the side you wish to play back or record facing down. If you insert the disc with “Side A” facing down, programs are recorded on the side A.

Single-sided discs:

Remove the disc from the cartridge. Align the disc with the grooves on the disc tray as shown in the illustration and insert with the label side facing up.

Care And Handling Of Discs

How to handle discs

When handling a disc, do not touch the surface of the disc. Since discs are made of plastic, they are easily damaged. If a disc gets dirty, dusty, scratched or warped, the images and sound will not be picked up correctly, and such a disc may cause the unit to malfunction.

Label side

Do not damage the label side, stick paper to or use any adhesives on its surface.

Recording side

Make sure that discs are not scratched or dirty on the recording side before use. Scratches and dirt on the recording side of a disc may hinder proper playback and recording. Also be careful that a DVD-RAM disc may get scratched or dirty when removed from cartridge then put back in after use.

Storage

Make sure that discs are kept in their cases. If discs are piled on top of one another without their protective cases, they can be damaged. Do not put discs in a location where they may be exposed to direct sunlight, or in a place where the humidity or temperature is high. Avoid leaving discs in your car!

Maintenance of discs

If there are fingerprints or other dirt adhering to a disc, wipe with a soft dry cloth, moving from the centre outwards.
If a disc is difficult to clean, wipe with a cloth moistened with water. Never use record cleaners, petrol, alcohol or any anti-static agents.

CAUTION:
Sometimes during playback, noise may appear or images may be garbled. This is sometimes due to the disc. (It may not be up to industry standards.)
These symptoms are caused by the discs, not by the malfunction of the unit.

Life Span Of Parts

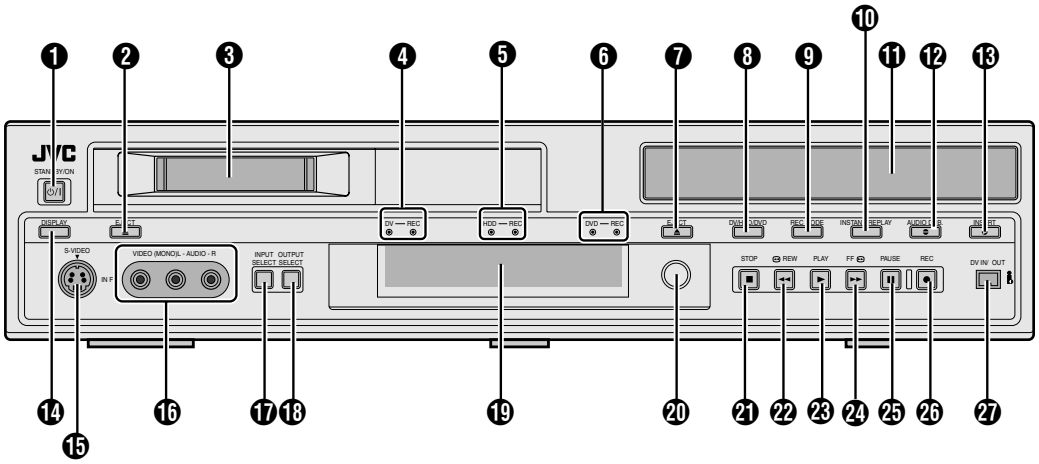
Cooling fan

Periodical inspection and maintenance are requisite to maintain the initial performance and reliability of the product.
We recommend the exchange of the fan motor every three years.

HDD

The HDD is a consumable part. Please arrange for maintenance after an estimated usage of 10,000 hours (this estimation is based on usage under the environment of 25°C, it may differ depending on the usage environment).
Please consult your authorized dealer or nearest JVC service center on the maintenance and cost.

Front View



❶ **STANDBY/ON Button (⏻/I)**
❷ **Eject Button (⏏) (DV) ☞ pg. 33**
❸ **Mini DV Cassette Loading Slot**
❹ **DV Lamp (DV) ☞ pg. 33**
DV Recording Lamp (REC)
❺ **HDD Lamp (HDD) ☞ pg. 20**
HDD Recording Lamp (REC)
❻ **DVD Lamp (DVD) ☞ pg. 20, 22**
DVD Recording Lamp (REC)
❼ **Eject Button (⏏) (DVD) ☞ pg. 10**
❽ **DV/HDD/DVD Select Button (DV/HDD/DVD) ☞ pg. 22, 31, 33**
- This button will not function during navigation mode or set up mode.

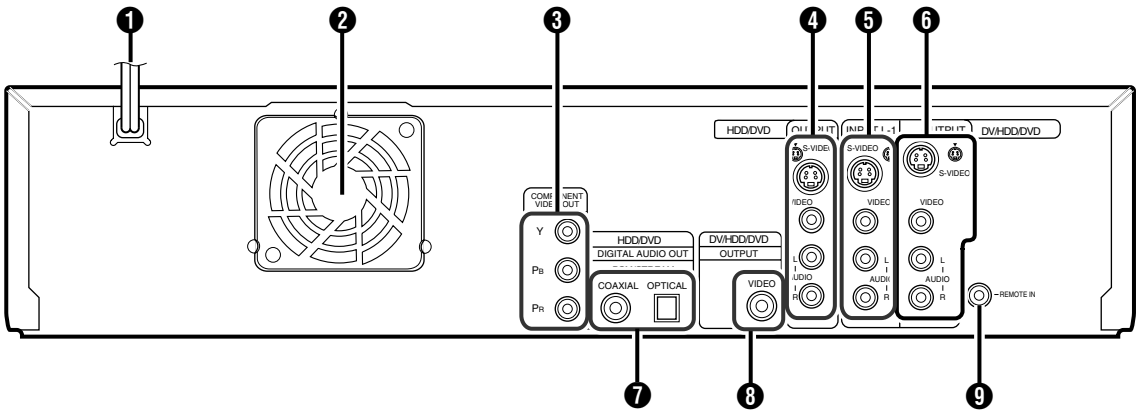
❾ **Recording Mode Button (REC MODE) ☞ pg. 49**
❿ **Instant Replay Button (INSTANT REPLAY) ☞ pg. 24, 32, 34**
⓫ **Disc Tray**
⓬ **Audio Dubbing Button (AUDIO DUB.) ☞ pg. 54**
⓭ **Insert Button (INSERT) ☞ pg. 55**
⓮ **Display Button (DISPLAY) ☞ pg. 25**
⓯ **S-video Input Connector [S-VIDEO] ☞ pg. 51**
⓰ **Video/Audio Input Connectors [VIDEO/AUDIO ((MONO) L/R)] ☞ pg. 51**
⓱ **Input Select Button (INPUT SELECT) ☞ pg. 49, 51**
⓲ **Output Select Button (OUTPUT SELECT)**
- Switches between "ALL" (DV/HDD/DVD output) and "DV" (DV output) when pressed. When "ALL" is selected, DV, HDD or DVD signals are output from the [DV/HDD/DVD OUTPUT] connectors on the rear panel depending on the deck selected. When "DV" is selected, DV signals are output regardless of the deck selected.

ATTENTION:
If "DV" is selected, "DV" and "OUTPUT DV" blink on the front display panel and TV screen respectively when **EDIT** or **NAVIGATION** is pressed while in the HDD/DVD deck mode. Press **OUTPUT SELECT** to stop the blinking and return to the previous display.

⓳ **Front Display Panel ☞ pg. 14**
⓴ **Infrared Beam Receiving Window**
㉑ **Stop Button (■) ☞ pg. 22, 31**
㉒ **Reverse Search Button (◄◄) (HDD & DVD deck) ☞ pg. 23, 36**
Rewind Button (◄◄) (DV deck) ☞ pg. 33, 34
㉓ **Play Button (►) ☞ pg. 22, 31**
㉔ **Forward Search Button (►►) (HDD & DVD deck) ☞ pg. 23, 36**
Fast Forward Button (►►) (DV deck) ☞ pg. 33, 34
㉕ **Pause Button (❚❚) ☞ pg. 22, 31**
㉖ **Record Button (●)**
㉗ **DV Input/Output Connector [DV IN/OUT(i.LINK*)] ☞ pg. 49**
- This connector can also be used as a direct connection to NLE (Non-Linear Editing) systems or to a PC for downloading, editing and archiving.
- [DV OUT] is available for DV deck only.

** i.LINK (i.Link) refers to the IEEE1394-1995 industry specification and extensions thereof. The i.LINK logo is used for products compliant with the i.Link standard.*

Rear View



❶ **AC Power Cord** ☞ **pg. 18**

❷ **Cooling Fan**
- This prevents the temperature from rising inside the unit. Do not remove it.
- Install the unit so as not to block the area around the fan.
- The unit may become hot when it is turned off, as the cooling fan on the rear of the unit is not activated. However, the cooling fan may be activated in the standby mode when "QUICK STARTUP" is set to "ON".

❸ **Component Video Output Connectors [COMPONENT VIDEO OUT (Y/P_B/P_R)] (HDD & DVD deck only)** ☞ **pg. 18**

❹ **S-VIDEO/VIDEO/AUDIO OUTPUT Connectors (HDD & DVD deck only)**
- These connectors only output DVD/HDD signals and can be used to connect to a second monitor.

❺ **S-VIDEO/VIDEO/AUDIO INPUT Connectors (L-1)** ☞ **pg. 52**

❻ **S-VIDEO/VIDEO/AUDIO OUTPUT Connectors** ☞ **pg. 18**

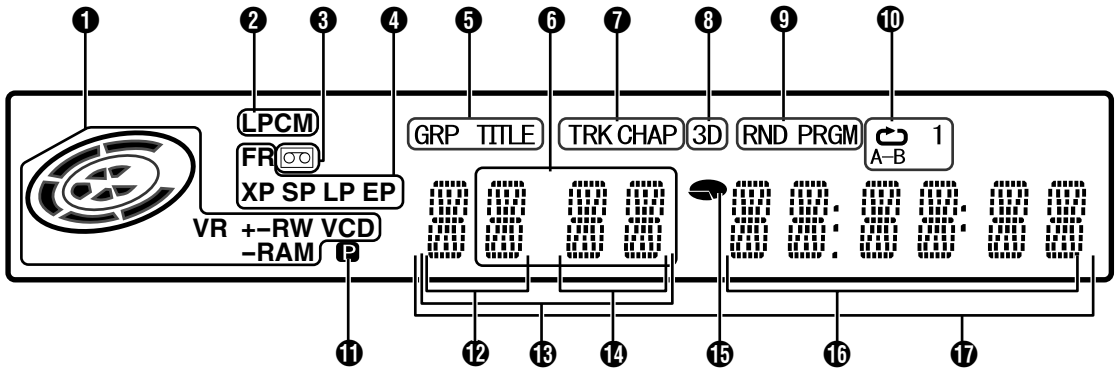
❼ **Digital Audio Output Connectors [DIGITAL AUDIO OUTPUT (OPTICAL/COAXIAL)] (HDD & DVD deck only)** ☞ **pg. 53, 57**

❽ **BNC Video Output Connector [VIDEO OUTPUT]** ☞ **pg. 18**

❾ **Remote Input Connector* [REMOTE IN]**

** There is currently no compatible remote control unit available.*

Front Display Panel



❶ **Disc Type Indicator**
When a disc is loaded, the type of the disc is indicated.
Disc Status Indicator
When a disc is running, the disc marks rotate.
VR Mode Indicator (VR) ☞ **pg. 61**
Lights when a DVD-R/RW disc is formatted in VR mode.

❷ **Linear PCM Indicator (LPCM)**
Lights when "XP MODE REC AUDIO" is set to "LINEAR PCM" (☞ pg. 59) for recording with HDD, DVD-RAM, DVD-R and DVD-RW discs, and when Linear PCM audio is played.

❸ **Cassette Loaded Mark (📼)**
Indicates the present of a cassette in the DV deck.
Lights when a cassette is loaded into the DV deck. It will remain lit as long as the cassette is loaded, even if the HDD or DVD deck is being selected.

❹ **Recording Mode Indicator (XP/SP/LP/EP/FR)** ☞ **pg. 50**
Blinks when recording mode is being set.
While "FR" is blinking, the left 3 digits of the Multi Display (⓬ ⓮) indicate setting values ranging from "60" to "480". After the value has been set, only "FR" lights.

❺ **Group/Title Indicator (GRP/TITLE)**
"GRP" or "TITLE" lights depending on a disc loaded while the left 2 digits of the Multi Display (⓬) indicate the numbers explained below.
"GRP": Total number of groups or group number being played back are displayed on the Multi Display.
"TITLE": Total number of titles or title number being played back are displayed on the Multi Display.

❻ **External Input Indicator**
Indicates the external input selected.

❼ **Track/Chapter Indicator (TRK/CHAP)**
"TRK" or "CHAP" lights depending on a disc loaded while the 3rd and 4th digits from the left of the Multi Display (⓮) indicate the numbers explained below.
"TRK": Total number of tracks or track number being played back are displayed on the Multi Display.
"CHAP": Chapter number being played back are displayed on the Multi Display.

❽ **Simulated Surround Effect Indicator (3D)** ☞ **pg. 29**
Lights when a simulated surround effect is set to "3D-ON" on the on-screen bar.

❾ **Random/Program Playback Mode Indicator (RND/PRGM)** ☞ **pg. 30**
"RND": Lights when Random Playback mode is set.
"PRGM": Lights when Program Playback mode is set.

❿ **Repeat Mode Indicator (🔁/1/A-B)** ☞ **pg. 27**
Select Repeat Playback mode on the on-screen bar.
"🔁": Whole disc is played back repeatedly.
"🔁1": A single title/chapter/track is played back repeatedly.
"🔁A-B": The selected part (A-B) is played back repeatedly.
No display: Repeat Playback mode is off.

⓫ **Video Output Indicator (P)** ☞ **pg. 65**
No display: Indicates that interlace mode is engaged.
P: Indicates that progressive mode is engaged.
(Example) P lights when video output mode is in progressive mode.

⓬ **Group/Title Number Display**

⓭ **Audio Dubbing/Insert Editing Indicator**
"ADUB" or "INS" lights up during Audio Dubbing or Insert Editing respectively.

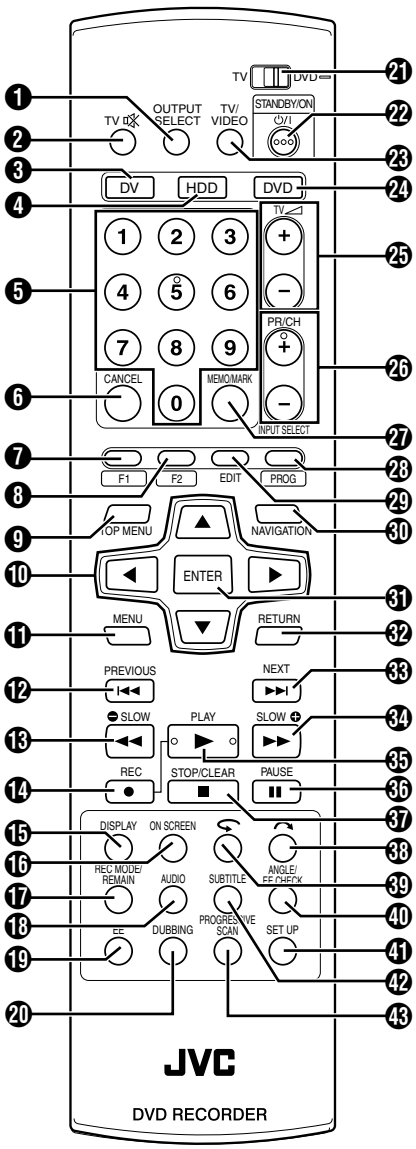
⓮ **Track/Chapter Number Display**

⓯ **Remaining Time/Elapsed Time Indicator** ☞ **pg. 25**
Lights when remaining time of HDD, DVD-RAM, DVD-R and DVD-RW discs is displayed, and lights out when elapsed time is displayed.
The right 6 digits of the Multi Display (⓰) indicate elapsed or remaining time of each track.
No display: Indicates elapsed time of the disc.
Displayed: Indicates remaining time of the disc.

⓰ **Remaining Time/Elapsed Time Display** ☞ **pg. 25**
Time Code Display ☞ **pg. 34**

⓱ **Multi Display**
Displays clock, received channel, elapsed time, and remaining time.
Also displays status of the unit (NO DISC/OPEN/CLOSE/READING).

Remote Control



❶ Output Select Button (OUTPUT SELECT)
- Switches between “ALL” (DV/HDD/DVD output) and “DV” (DV output) when pressed. When “ALL” is selected, DV, HDD or DVD signals are output from the [DV/HDD/DVD OUTPUT] connectors on the rear panel depending on the deck selected. When “DV” is selected, DV signals are output regardless of the deck selected.

ATTENTION:
If “DV” is selected, “DV” and “OUTPUT DV” blink on the front display panel and TV screen respectively when **EDIT** or **NAVIGATION** is pressed while in the HDD/DVD deck mode. Press **OUTPUT SELECT** to stop the blinking and return to the previous display.

❷ TV Muting Button (TV 🔇) ☞ pg. 56
❸ DV Button* ☞ pg. 33
** This button will not function during navigation mode or set up mode.*
❹ HDD Button* ☞ pg. 31
** This button will not function during navigation mode or set up mode.*
❺ Number Keys ☞ pg. 56
❻ Cancel Button (CANCEL) ☞ pg. 30
❼ F1 Button ☞ pg. 65
❽ F2 Button ☞ pg. 62, 63
❾ Top Menu Button (TOP MENU) ☞ pg. 23
❿ Selection Keys (△▽◁▷) ☞ pg. 19
⓫ Menu Button (MENU) ☞ pg. 23
⓬ Reverse Skip Button (⏮) ☞ pg. 23, 32, 36
Previous Button (PREVIOUS) ☞ pg. 26
⓭ Reverse Search Button (◀◀) (HDD & DVD deck) ☞ pg. 23, 36
Rewind Button (◀◀) (DV deck) ☞ pg. 33
Reverse Slow Button (SLOW –) ☞ pg. 23
⓮ Record Button (●)
⓯ Display Button (DISPLAY) ☞ pg. 25, 34
⓰ On-Screen Button (ON SCREEN) ☞ pg. 16, 27
⓱ Recording Mode Button (REC MODE) ☞ pg. 49
Remain Button (REMAIN) ☞ pg. 25
⓲ Audio Button (AUDIO) ☞ pg. 26
⓳ EE Button ☞ pg. 36
⓴ Dubbing Button (DUBBING) ☞ pg. 45
㉑ TV/DVD switch ☞ pg. 20, 56
㉒ STANDBY/ON Button (⏻/|)
㉓ TV/VIDEO Button ☞ pg. 56
㉔ DVD Button* ☞ pg. 22
** This button will not function during navigation mode or set up mode.*
㉕ TV Volume Buttons (TV◿ +/–) ☞ pg. 56
㉖ TV Program Buttons (PR/CH +/–) ☞ pg. 56
Input Select Button (INPUT SELECT +/–) ☞ pg. 49, 51
㉗ Memo Button (MEMO) ☞ pg. 39, 42
Mark Button (MARK) ☞ pg. 25
㉘ Programming Button (PROG): Not use on this unit.
㉙ Edit Button (EDIT) ☞ pg. 39
㉚ Navigation Button (NAVIGATION) ☞ pg. 38, 44
㉛ Enter Button (ENTER) ☞ pg. 20
㉜ Return Button (RETURN) ☞ pg. 26, 28
㉝ Forward Skip Button (⏭) ☞ pg. 23, 36
Next Button (NEXT) ☞ pg. 26
㉞ Forward Search Button (▶▶) (HDD & DVD deck) ☞ pg. 23, 36
Fast Forward Button (▶▶) (DV deck) ☞ pg. 33
Forward Slow Button (SLOW +) ☞ pg. 23
㉟ Play Button (▶) ☞ pg. 22, 31
㊱ Pause Button (❚❚) ☞ pg. 22, 31
㊲ Stop Button (■) ☞ pg. 22, 31
Clear Button (CLEAR) ☞ pg. 30
㊳ Skip Search Button (↷) ☞ pg. 24, 31, 34, 36
㊴ Instant Replay Button (↶) ☞ pg. 24, 32, 34, 36, 37
㊵ Angle Button (ANGLE) (DVD deck only) ☞ pg. 25
EE Check Button (EE CHECK) ☞ pg. 36
㊶ Set Up Button (SET UP) ☞ pg. 20, 58
㊷ Subtitle Button (SUBTITLE) ☞ pg. 26
㊸ Progressive Scan Button (PROGRESSIVE SCAN) ☞ pg. 65

How To Use

Before use, insert two AA size batteries into the remote control with the polarity (⊕ and ⊖) matched correctly as indicated on the battery compartment or on the lid.

The remote control can operate most of your unit’s functions, as well as basic functions of TV sets of JVC and other brands. (☞ pg. 56)
- Point the remote control toward the receiving window.
- The maximum operating distance of the remote control is about 8 m.

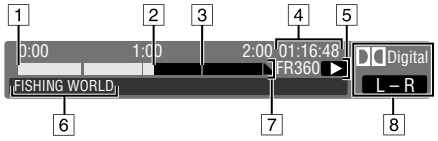
NOTE:
If the remote control doesn’t work properly, remove its batteries, wait a short time, replace the batteries and then try again.

On-Screen Display (HDD & DVD deck)

When “SUPERIMPOSE” is set to “ON” or “AUTO” and **ON SCREEN** on the remote control is pressed, various operational indicators appear on the TV screen. To clear the operational indicators, press **ON SCREEN** twice.

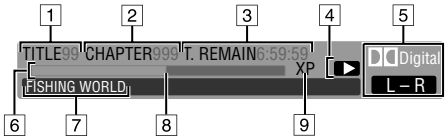
When playing back a recorded title

HDD



1 Title start
2 Current playback point
3 Title end
4 Elapsed playing time
5 Play mode
6 Name of title currently being played back
7 Time scale (This title is an hour and a half long.)
8 Audio mode

DVD

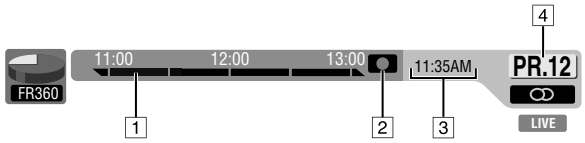


1 Playback title number
2 Playback chapter number
3 Disc remaining time
4 Current status (playback)
5 Audio mode
6 Bar meter
7 Name of title (or play list) currently being played back
8 Current playback point
9 Recorded mode*

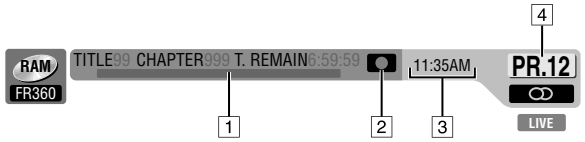
** Depending on the recording condition, the recorded mode may not always be displayed.*

When recording

HDD



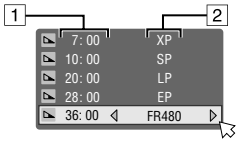
DVD



1 Recording point
2 Current status (recording)
3 Current time
4 Recording channel number

When pressing REC MODE

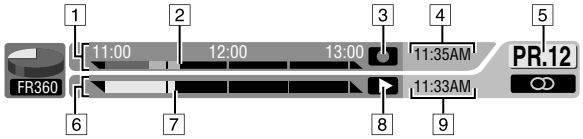
(Appears for eight seconds.)



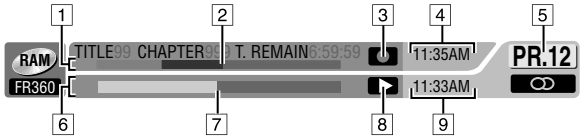
1 Remaining disc time for each recording speed
2 Recording speed

When using Live Memory playback

HDD



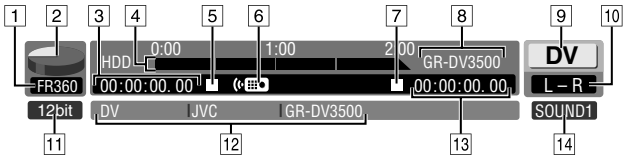
DVD



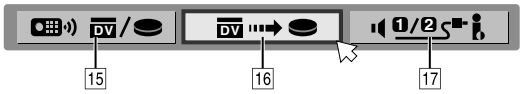
1 Time scale for recording (HDD deck)
Bar meter for recording (DVD deck)
2 Current recording point
3 Recording mode
4 Current time
5 Current playback channel position number
6 Time scale for Live Memory Playback (HDD deck)
Bar meter for Live Memory Playback (DVD deck)
7 Current playback point
8 Live Memory playback mode
9 Current playback time

On-Screen Display (DV Dubbing)

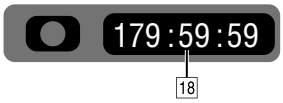
When capturing images from the external DV equipment



1 Recording speed
2 HDD capacity graph
3 HDD time counter
4 Recording time scale
5 HDD mode
6 Remote control mode
7 Connected DV equipment mode
8 Connected DV equipment model information
9 Input channel
10 Sound mode
11 Sound input bit-rate*
** Indicates the sound bit-rate of the connected DV equipment*
12 Connected DV equipment information*
** Maker name and model name, etc. may not appear depending on the connected equipment.*
13 Time counter for the connected DV equipment
14 Sound monitor mode



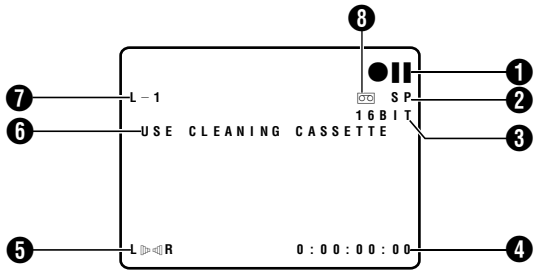
15 Remote control switch
16 Auto capture button
17 Sound monitor switch



18 Elapsed recording time

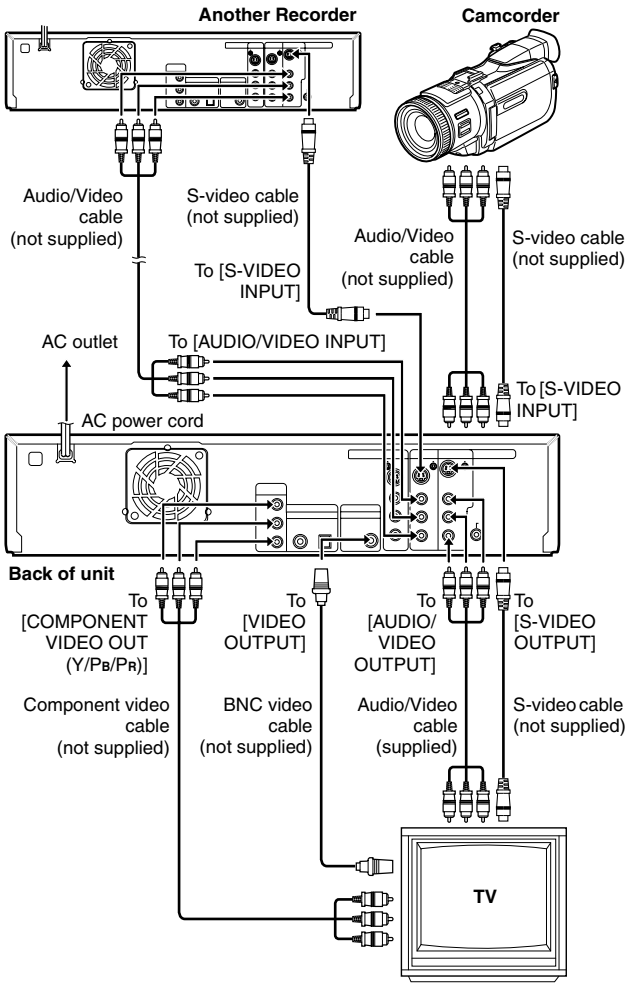
On-Screen Display (DV deck)

When “SUPERIMPOSE” is set to “ON” or “AUTO” and **ON SCREEN** on the remote control is pressed, various operational indicators appear on the TV screen. To clear the operational indicators, press **ON SCREEN** again.



❶ Operation Mode Indicators
❷ Tape Speed (SP/LP)
❸ Sound Mode Display ☞ pg. 60
❹ Current Month/Day/Year/Clock Display/Time Code Display ☞ pg. 34
❺ Audio Mode Display ☞ pg. 34
❻ Warning Message
❼ Auxiliary Input Indicator (L-1, F-1 or DV)
❽ “Cassette Loaded” Mark

Basic Connections



It's essential that your unit be properly connected.

ATTENTION:
Connect the AC plug only after all connections to the TV has been completed.

- Make sure the package contains all of the accessories listed in "SPECIFICATIONS" (☞ pg. 86).
- Place the unit on a stable, horizontal surface.

THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

Connecting to a TV Monitor

Connect the unit to a TV depending on the TV and cables you use.

■ **AV Connection**

To connect to a TV with AV connector —

1 Connect the [AUDIO/VIDEO OUTPUT] connectors on the rear panel of the unit and the TV's audio/video input connectors with the supplied Audio/Video cable.

To connect to a TV with BNC connector —

1 Connect an optional audio cable between the [AUDIO OUTPUT] connectors on the rear panel of the unit and the TV's audio input connectors.
2 Connect an optional BNC video cable between the unit's BNC [VIDEO OUTPUT] connector and the TV's BNC VIDEO input connector.

■ **S-Video Connection**

To connect to TV's S-VIDEO input and AUDIO input connectors —

1 Connect the unit's [S-VIDEO OUTPUT] connector to the TV's S-VIDEO input connector.
2 Connect the unit's [AUDIO OUTPUT] connectors to the TV's AUDIO input connectors.
- If your TV is not stereo-capable, use the unit's [AUDIO OUTPUT] connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction.

■ **Component Video Connection**

To connect to TV's component video input connectors —

1 Connect the unit's [COMPONENT VIDEO OUT (Y/PB/PR)] connectors to the TV's component video input connectors.
2 Connect the unit's [AUDIO OUTPUT] connectors to the TV's AUDIO input connectors.
- You can obtain high-quality component video pictures.
- The [COMPONENT VIDEO OUT (Y/PB/PR)] connectors do not output DV signals.
- If your TV is not stereo-capable, use the unit's [AUDIO OUTPUT] connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction.
- By using the component video connection, you can view the images in the progressive mode. For switching to the progressive mode, refer to "Scan Mode Set (HDD & DVD Deck Only)" (☞ pg. 65).

Connecting to a DV Device

1 Connect the unit's [S-VIDEO INPUT] or [VIDEO INPUT] connector on the front panel to the camcorder's s-video or video output connector.
2 Connect the unit's [AUDIO INPUT] connectors on the front panel to the camcorder's audio output connectors.

Connecting to Another Recorder

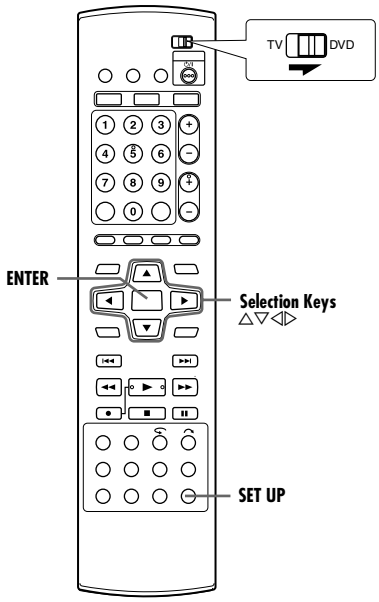
1 Connect the unit's [S-VIDEO INPUT] or [VIDEO INPUT] connector to another recorder's s-video or video output connector.
2 Connect the unit's [AUDIO INPUT] connectors to another recorder's audio output connectors.

Plug the end of the AC power cord into an AC outlet.

- **"PLEASE" and "WAIT" blink alternately on the front display panel when the AC plug of the AC power cord is connected into an AC outlet. After a short while, "32**" blinks on the front display panel and starts to count down.**
  It takes approximately 50 seconds for the unit to be turned on. This is not a malfunction.

Clock Set

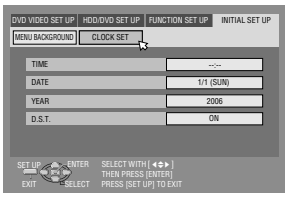
- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.



1 Press **SET UP** to access the Main Menu screen.

2 Press **selection keys** to select “INITIAL SET UP”, then press ▽.

3 Press **selection keys** to select “CLOCK SET”, then press ▽.



4 Press **selection keys** to select “TIME”, then press **ENTER**. Press **selection keys** to set the time, then press **ENTER**.
- Repeat the same procedure to set the date and year.
- When you set the time, press and hold △ ▽ to change the time by 30-minute intervals.
- When you set the date, press and hold △ ▽ to change the date by 15-day intervals.

5 Press **selection keys** to select “D.S.T.”, then press **ENTER**. Press **selection keys** to select the desired setting, then press **ENTER**.

ON:
Adjustment will be made by the built-in clock itself.

OFF:
Select when Daylight Saving Time does not apply to you.

6 Press **SET UP** to start the clock operation.

Daylight Saving Time

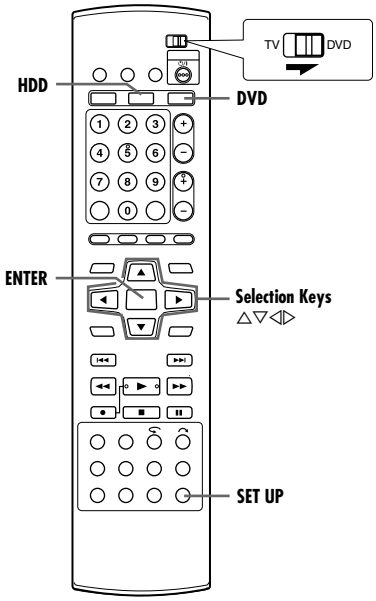
This function enables automatic adjustment of the unit’s clock at the start and end of Daylight Saving Time.
- With D.S.T. activated, —

— on the second Sunday of March at 2:00 AM, the clock is adjusted to 3:00 AM.
— on the first Sunday of November at 2:00 AM, the clock is adjusted to 1:00 AM.

NOTE:
For the year 2006, the Daylight Saving time will end on the last Sunday of October at 2:00 AM.

Language

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.



On-screen Language Set

This unit offers you the choice to view on-screen messages in 3 different languages.

1 Press **HDD** or **DVD** so that the HDD or DVD lamp lights up on the unit.

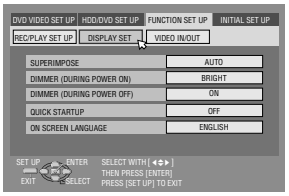
2 Press **SET UP** to access the Main Menu screen.

3 Press **selection keys** to select “FUNCTION SET UP”, then press ▽.

4 Press **selection keys** to select “DISPLAY SET”, then press ▽.

5 Press **selection keys** to select “ON SCREEN LANGUAGE”, then press **ENTER**.

6 Press **selection keys** to select your desired language, then press **ENTER**.



7 Press **SET UP** to complete the setting.

Menu/Audio/Subtitle Language Set (DVD deck only)

Some DVD discs contain the DVD menu display, audio and subtitles in multiple languages. With these discs, you can set the default language as you like.

- The procedure shows how to set “MENU LANGUAGE” as an example.

1 Press **DVD** so that the DVD lamp lights up on the unit.

2 Press **SET UP** to access the Main Menu screen.

3 Press **selection keys** to select “DVD VIDEO SET UP”, then press ▽.

4 Press **selection keys** to select “LANGUAGE SET”, then press ▽.

5 Press **selection keys** to select “MENU LANGUAGE”, then press **ENTER**.

6 Press **selection keys** to select your desired language, then press **ENTER**.

- See “Language Code List” (☞ pg. 69).

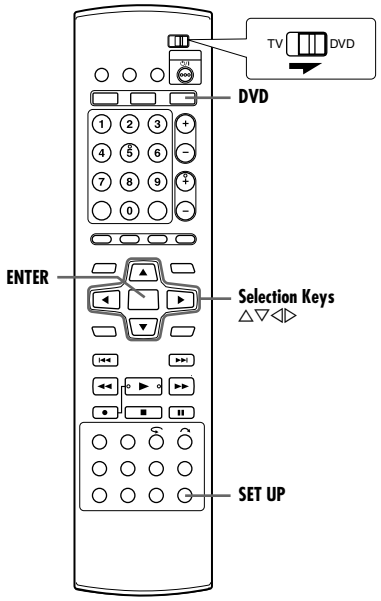
7 Press **SET UP** to complete the setting.

NOTE:
When the selected language is not available on the disc, the disc’s default menu language is played back.

Monitor Set

You can select the monitor type depending on the TV used when you play back DVD VIDEO discs recorded for wide-screen TVs.

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.



1 Press **DVD** so that the DVD lamp lights up on the unit.

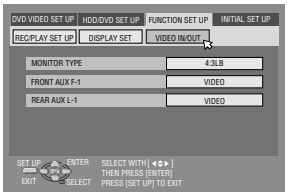
2 Press **SET UP** to access the Main Menu screen.
- You cannot set the monitor type during recording or playback.

3 Press **selection keys** to select “FUNCTION SET UP”, then press ▽.

4 Press **selection keys** to select “VIDEO IN/OUT”, then press ▽.

5 Press **selection keys** to select “MONITOR TYPE”, then press **ENTER**.

6 Press **selection keys** to select the desired option, then press **ENTER**.



7 Press **SET UP** to complete the setting.

** The **boldface** settings below indicate the settings at your purchase.*

■ MONITOR TYPE – **4:3LB** / 4:3PS / 16:9AUTO / 16:9FIX

4:3LB (Letter Box conversion):
Select this when the aspect ratio of your TV is 4:3 (conventional TV). While viewing a wide screen picture, the black bars appear on the top and the bottom of the screen.

4:3PS (Pan&Scan):
Select this when the aspect ratio of your TV is 4:3 (conventional TV). While viewing a wide screen picture, the black bars do not appear; however, the left and right edges of the pictures will not be shown on the screen.

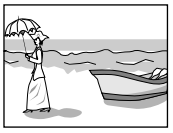
16:9AUTO (Wide television conversion):
Select this when the aspect ratio of your TV is 16:9 (wide TV).

16:9FIX (Wide television conversion):
Select this when the aspect ratio of your TV is fixed to 16:9 (wide TV). The unit automatically adjusts the screen width of the output signal correctly when playing back a picture whose aspect ratio is 4:3.

Pan&Scan/Letter Box

In general, DVD VIDEO disc are produced for a wide-screen TV with 16:9 aspect ratio.
Material with this ratio will not fit to a TV with 4:3 aspect ratio. There are two styles to display the image, “Pan&Scan” (PS) and “Letter Box” (LB).

Pan&Scan
The right and left side of the image are cut off. The image fills the screen.
- The picture will be shown in the “4:3LB” mode depending on the disc even if the “4:3PS” mode is selected.

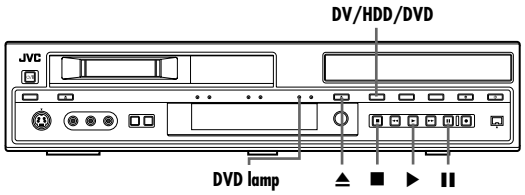


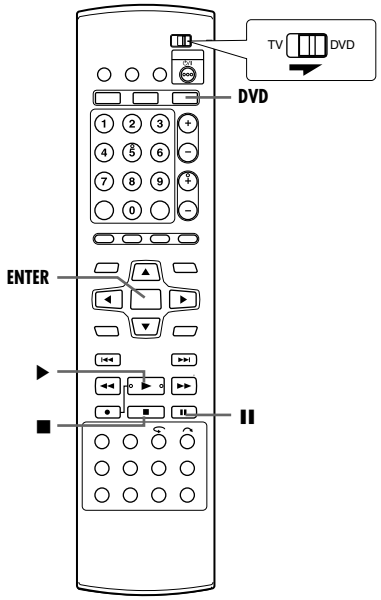
Letter Box
Black bands appear at the top and bottom of the image. The image itself appears in 16:9 aspect ratio.

Basic Playback

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.





ATTENTION:
- It takes approximately 30 seconds to read a disc depending on the type and condition of the disc since this unit is multi-disc compatible (DVD-RAM, DVD-RW, DVD-R). It may even take several minutes when a disc is dirty, scratched or warped.
- It may take a few seconds to start playback. This is not a malfunction.
- Forward/reverse high-speed search and other operations cannot be performed while playback is stopped.

To play back an MP3/JPEG disc, see “Playback With MP3/WMA/JPEG Navigation” (☞ pg. 44).

1 Load a disc.
- For details, refer to “Placing A Disc” (☞ pg. 10).
- Pressing ▶ also closes the disc tray.
- Playback begins automatically if an auto-playback DVD disc is loaded.

2 Press **DV/HDD/DVD** on the unit repeatedly or **DVD** on the remote control so that the DVD lamp lights up on the unit.

3 Press ▶ to start playback.
- If you load a DVD disc whose region code does not match the unit, “REGION CODE ERROR” appears on the TV screen. For details, refer to “Region Number” (☞ pg. 8).
- With Video CD/SVCD discs with PBC control or some DVD discs, the menu display may appear on the TV screen after starting playback. In this case, select an item which you want to play back from the menu. Otherwise, the playback cannot go forward. Refer to “Playback Control (PBC) Function” (☞ pg. 26) or “Locating A Desired Scene Using The DVD Menu” (☞ pg. 23).
- The Library Database Navigation also enables you to search and select the desired titles. (☞ pg. 39)

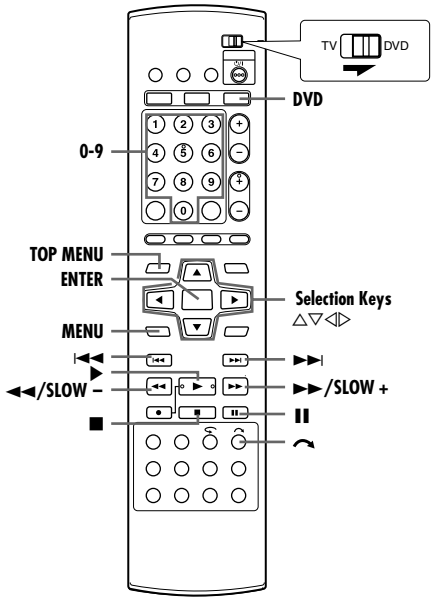
4 Press ❚❚ to pause playback.
- To resume normal playback, press ▶.

5 Press ■ to stop playback.
- When a recordable disc is played, playback stops and AV input (from external AV source) resumes on the TV screen.
- When a playback-only disc is played, playback stops and the TV screen becomes all black when you press ■. Pressing ■ again resumes the AV input (from external AV source).
- If ⏏ is pressed during playback, playback stops, then the disc tray opens.

NOTES:
- When the Library Database Navigation screen appears, choose a thumbnail image of the desired title on the TV screen, then press **ENTER**. (☞ pg. 39)
- It is not possible to playback the DVD disc recorded in 96 kHz on DVD during recording or Live Memory Playback on HDD.
- It is possible to play back on the DV deck and the HDD/DVD deck simultaneously. However, either DVD or HDD can be played at the same time.

Playback Features

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.
- Press **DVD** so that the DVD lamp lights up on the unit.



Locating A Desired Scene Using The DVD Menu

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

DVD VIDEO discs may have top menu and disc menu.

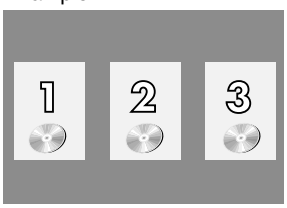
Top menu
DVD discs generally have their own menus which show the disc contents. These menus contain various items such as titles of a movie, names of songs, or artist information. You can locate a desired scene by using the top menu displayed on the TV screen. Press **TOP MENU** to access the top menu.

Disc menu
Disc menus include playback data (angle menu, subtitle menu, etc.) specific to each title.
Press **MENU** to access the disc menu.

1 Press **TOP MENU** or **MENU** to access the DVD menu.

2 Press **selection keys** to select a desired title, then press **ENTER**. Playback starts.
- It may be possible to select the desired item using the **number keys** depending on the menu display.

Example:

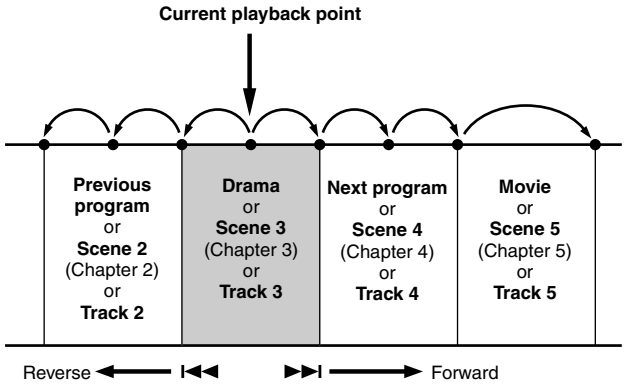


NOTE:
When "⃠" appears on the TV screen in step **1**, the disc does not have a top menu or disc menu.

Locating The Start Point Of The Item Or Skip The Item

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

Press |◄◄ or ►►| during playback.
- Pressing ►►| locates the start point or marked points of the item or skips the item in the forward direction, then resumes playback.
- Pressing |◄◄ locates the start point or marked points of the item or skips the item in the reverse direction, then resumes playback.


Current playback point
Previous program or Scene 2 (Chapter 2) or Track 2
Drama or Scene 3 (Chapter 3) or Track 3
Next program or Scene 4 (Chapter 4) or Track 4
Movie or Scene 5 (Chapter 5) or Track 5
Reverse
Forward

- : marked points if any (☞ pg. 25) or beginning of recording

Variable Speed Search

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

During playback, press ►► for forward variable speed search, or ◄◄ for reverse variable speed search.
- Each press of the button increases the search speed for each direction.
- To resume normal playback, press ▶.

For Audio CD
You can perform 4 levels of speed search with ►► and ◄◄. (Audio is active also during variable speed search.) You cannot perform slow motion for each direction.

Reverse ◄◄ ►► Forward

Reverse Search 4 steps				Reverse Play	Reverse Slow Motion 3 steps			Slow Motion 3 steps			Normal Play	Forward Search 4 steps			
–60	–15	–5	–3	–1	–1/2	–1/4	–1/16	1/16	1/4	1/2	1	3	5	15	60

NOTE:
Reverse play (–1x) is not possible with Video CD/SVCD discs.

Still Picture/Frame-By-Frame Playback

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

1 Press II to pause during playback.

2 Press **SLOW –** (◄◄) or **SLOW +** (►►) to activate frame-by-frame playback.
- Each press of **SLOW –** (◄◄) or **SLOW +** (►►) advances/reverses the still picture frame by frame.
- Frame-by-frame playback for reverse direction cannot be performed with Video CD/SVCD discs.
- To resume normal playback, press ▶.

Slow Motion

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

1 Press II to pause during playback.

2 Press **SLOW –** (◄◄) or **SLOW +** (►►) for 2 or more seconds.
- Each press of **SLOW –** (◄◄) or **SLOW +** (►►) increases the slow motion speed for each direction.
- Slow motion for reverse direction cannot be performed with Video CD/SVCD discs.

Skip Search

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

During playback, press ⏭.
- Each press initiates an approximately 30-second period of fast-motion playback. Normal playback resumes automatically.
- Skip search cannot be performed when a VCD/SVCD disc is being played back with the PBC function.

Instant Replay

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

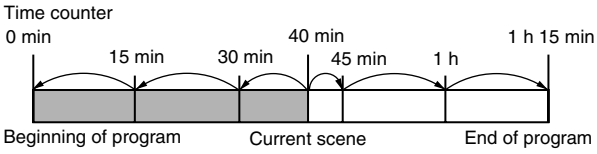
You can move back the playback position slightly.
Press ⏮ on the remote control or **INSTANT REPLAY** on the unit.
- Each press skips back for approximately 7 seconds and resumes playback.
- Pressing while paused skips back for approximately 7 seconds and resumes pause.
- Instant replay cannot be performed when a VCD/SVCD disc is being played back with the PBC function.

Jump Search

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

You can locate a scene ahead or behind the current one by jumping scenes according to selected time intervals (☞ pg. 59) during playback (or Live Memory Playback).
Press ⏮ or ⏭.
- To advance forward or back, press ⏮ or ⏭ repeatedly within 5 seconds of each press to continue jump.
- Depending on the time from where you want to start jump search, the first press of ⏮ or ⏭ will not necessarily lead to a jump of the selected time interval. The first press will lead to a jump to the nearest quarter points of an hour (15 min/ 30 min/ 45 min/ 00 min). The subsequent jumps will then be in accordance to the selected time interval.
- When you cannot advance any further (beginning or end of program reached), the message "UNABLE TO GO BACK ANY MORE" or "UNABLE TO GO FORWARD ANY MORE" appears on the screen. In such a case, press ⏮, ◀◀, ▶▶, ⏭ or ■.

Example:
Playback search when jump interval is set to 15 MIN jumps. Taking for instance, you want to start jump search 40 minutes after the beginning of the program. Pressing ⏮ or ⏭ will result in a jump to the scene at the 30 minutes point or 45 minutes point respectively as illustrated below. At the subsequent press, the scene will jump to the 15 minutes point or 1 hour point respectively, according to the selected time interval, which in this case is "15 MIN".



NOTES:
- Jump search cannot be performed with finalized DVD-R/DVD-RW (video mode) discs.
- Jump search functions only when chapters (marks) are not set.

Resume Function

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

It is possible to memorize the position where you stop playback and resume playback from that position.
- Be sure to set "RESUME" to "ON" or "DISC RESUME". (☞ pg. 59)
- Resume function always works for DVD-R/DVD-RW discs that have not been finalized and DVD-RAM regardless of the setting of "RESUME".

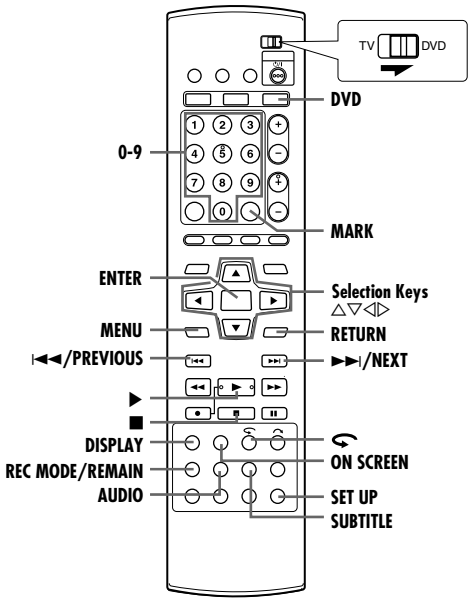
1 Press ■ during playback to memorize a resume point.
- The unit enters Resume Stop mode and memorizes the position where you have stopped playback as a resume point. (The inside of the disc status indicator on the front display panel blinks while memorizing.)
- The unit retains a memory of the resume points of the last 30 discs played back, even though they have been ejected if "RESUME" is set to "DISC RESUME". (☞ pg. 59)
- Performing the following steps would erase the resume points: (The inside of the disc status indicator stops blinking and lights.)

When "RESUME" is set to "ON":
- Press ⏻/| to turn off the unit.
- Press ⏏ to take out the disc.
- Press ■ in stop mode.
- Press **TOP MENU** to display the top menu, then start playback by selecting an item, etc.
- Press **MENU** to display the disc menu, then start playback by selecting an item, etc.

When "RESUME" is set to "DISC RESUME":
- Set "RESUME" to "OFF". (☞ pg. 59)
- Press ■ in stop mode.
- Press **TOP MENU** to display the top menu, then start playback by selecting an item, etc.
- Press **MENU** to display the disc menu, then start playback by selecting an item, etc.

2 Press ▶ in stop mode to resume playback. The unit starts playback from the resume point.

NOTES:
- "DISC RESUME" setting works on DVD VIDEO, VCD, SVCD and already finalized DVD-R/DVD-RW (video mode) discs. For other types of discs, the function under "ON" setting will be applied even if "RESUME" is set to "DISC RESUME". (☞ pg. 59)
- If you stop the playback of a disc for which a resume point has already been memorized, the memory will be updated with the new resume point.
- After the unit has memorized the resume points for 30 discs, remembering a new resume point will cause the unit to delete the oldest memorized point. Stopping playback of a disc for which a resume point is already stored may change the order in which the points are stored. This may potentially change the order in which points are deleted.
- When the unit memorizes a resume point for a disc, it also remembers audio language, subtitle and angle settings.
- This function may not work for some Video CD/SVCDs.
- When "RESUME" is changed to "ON" or "OFF" (☞ pg. 59), resume points of the discs memorized with "RESUME" set to "DISC RESUME" will be cleared.
- Resume points are memorized for each side of a double-sided disc.
- When you switch to HDD while playing back JPEG/MP3 files, playback stops. The Resume Function doesn't work when you switch to DVD thereafter to playback the disc.



Marking Positions To Play Back Again Later

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

It is possible to mark positions (up to 999 points) where you want to play back once again later, and start playback from a marked position. Marking onto DVD-RAM/R/RW (VR mode only) discs when recording is helpful to locate a start point when you play back the discs later.

To mark positions:
During playback, press **MARK** at positions you want to mark.
- "MARK" appears on the TV screen. You can easily locate the marked positions using I◄◄ or ►►I when you play back the disc.

To delete the marked positions:
While paused, press I◄◄ or ►►I to locate a marked position you want to delete, then press **MARK**.
- Crossed "MARK" appears on the TV screen, and the marked position is deleted.

NOTES:
- For DVD-R/RW (Video mode) discs, marks are assigned automatically every 5 minutes.
- If **MARK** is pressed when playing back a disc that does not allow marks to be inserted, "⃠" appears on the TV screen.

Checking The Time Information

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

You can check time information of a disc on the front display panel and the TV screen.

■ **DVD-RAM/DVD-R/DVD-RW**
Each press of **DISPLAY** on the remote control or the unit changes the display as follows:
During recording
Clock time (front display panel only) → Current title elapsed time → Disc remaining time → (back to the beginning)

During playback
Each title elapsed time → Total remaining time → Remaining time* → (back to the beginning)
** only discs before finalizing*

During recording/playback or in stop mode
Press **REC MODE**.
- The disc remaining time according to recording modes appears on the TV screen.
- It is possible to check disc remaining time according to recording modes also by pressing **REMAIN**.
- In FR mode, it is possible to set recording time in detail. While the recording mode and the disc remaining time are displayed by pressing **REMAIN**, press **selection keys** to select "FR", then press ◁▷ to select the desired recording time. (☞ pg. 50)
- It is not possible to switch the recording mode during playback or while recording.

■ **Video CD/SVCD/Audio CD**
During playback or in stop mode
Current track elapsed time → Current track remaining time → Total elapsed time → Total remaining time → (back to the beginning)

NOTES:
- When a PBC-compatible Video CD/SVCD disc is loaded, deactivate the PBC function. (☞ pg. 26)
- For pre-recorded DVD VIDEO, only the title, chapter and elapsed time are displayed when **ON SCREEN** is pressed.

Angle Selection

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

You can enjoy a variety of scene angles if a DVD VIDEO disc contains "multi-angle" parts, where the same scene was shot from different angles.
If the disc contains "multi-angle" parts, "📹" appears on the TV screen at the beginning of the "multi-angle" part.

1 Press **ANGLE** during playback. The angle selection display appears on the TV screen.

When 3 scene angles are contained.

2 Press **ANGLE** or **selection keys** to select your desired angle.
- Each time you press **ANGLE** or the **selection keys**, the angle changes.
- When "⃠" appears on the TV screen, the current scene is not recorded from multiple angles. In addition, some discs prohibit angle selection.
- To clear the angle selection display, press **ENTER**. In addition, the angle selection display disappears automatically if no operation is done for 10 seconds.

Subtitle Selection

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

Some DVD VIDEO discs contain more than one subtitle language, from among which you can choose the desired subtitle language. "[....]" appears on the TV screen at the beginning of the part where more than one subtitle language are recorded.

1 Press **SUBTITLE** during playback. The subtitle selection display appears on the TV screen.
- Each time you press **SUBTITLE**, the subtitle display is switched on and off.

When 3 subtitle languages are contained.

2 Press **selection keys** to select your desired language.
- To clear the subtitle selection display, press **ENTER**.

NOTES:
- When "⃠" appears on the TV screen, no subtitle language is recorded.
- When the subtitle language won't be changed with the procedure above, change the subtitle on a disc menu displayed by pressing **MENU**.

Audio Channel Selection

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

When watching bilingual programs or playing discs on which you recorded bilingual or stereo programs, you can choose the desired audio channel.
- When "SUPERIMPOSE" is set to "ON" or "AUTO", you can confirm on the TV screen the audio channel you have chosen. (☞ pg. 59)
- Each time you press **AUDIO**, the audio channel changes.

TRACK On-Screen Display	USE
L+R	For stereo discs
L	For audio of left channel
R	For audio of right channel

NOTE:
It is not possible for DVD-R/DVD-RW (Video mode) disc playback to switch the audio channel.

When you can't switch the audio channel of a bilingual program

When the unit is connected with a digital audio device using an optional optical cable and "DIGITAL AUDIO OUT" is set to "DOLBY DIGITAL/PCM", it is not possible to switch the audio channel of a bilingual program recorded on a DVD-RAM or DVD-R/RW (VR mode) disc. (☞ pg. 57) In this case, perform the following steps using the remote control to switch "DIGITAL AUDIO OUT" from "DOLBY DIGITAL/PCM" to "PCM ONLY".

1. Press **SET UP** to access the Main Menu screen.
2. Press **selection keys** to select "DVD VIDEO SET UP", then press ▽.
3. Press **selection keys** to select "AUDIO OUTPUT", then press ▽.
4. Press **selection keys** to select "DIGITAL AUDIO OUT", then press **ENTER**.
5. Press **selection keys** to select "PCM ONLY", then press **ENTER**. (☞ pg. 58)
6. Press **SET UP** to complete the setting.
7. Press **AUDIO** to select the desired audio channel.

Audio Language/Sound Selection

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

Some DVD VIDEO discs contain the multiple audio language or sound. You can select the desired audio language or sound. For some Video CD/SVCD discs, you can switch the audio channel to choose Karaoke either with or without the vocal.

1 Press **AUDIO** during playback. The Audio Language/Sound selection display appears.

For example: DVD VIDEO

When 3 audio languages are contained.

2 Press **AUDIO** or **selection keys** to select your desired audio language/sound.
- Each time you press **AUDIO** or the **selection keys**, the audio language/sound changes.
- To clear the Audio Language/Sound selection display, press **ENTER**.

NOTES:
- When "⃠" appears on the TV screen, no other audio language is recorded.
- When the audio language won't be changed with the procedure above, change the audio on a disc menu displayed by pressing **MENU**.
- Pressing **AUDIO** to select the audio language/sound is only possible during playback. It is not possible to select by pressing **AUDIO** in stop mode. However, you can select the desired audio language/sound from the setup menu while in stop mode.

Playback Control (PBC) Function

DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

Some Video CD/SVCD discs support the PBC function. PBC is an abbreviation of "Play Back Control". A Video CD/SVCD disc recorded with PBC has its own menus, such as a list of the songs on the disc. You can locate a specific scene by using the menu.

1 Press ▶ in stop mode. The PBC menu appears.

2 Press the **number keys** to enter the number of the desired scene, then press **ENTER**. The unit starts playback of the selected item.
- "PBC" appears on the front display panel.
- When "NEXT" or "PREVIOUS" appears on the TV screen: Pressing **NEXT** (▶▶|) advances to the next page. Pressing **PREVIOUS** (|◀◀) returns to the previous page.
- You can return to the menu by pressing **RETURN**.
- The method of the operation is different depending on the disc.

NOTE:
If you want to playback a PBC-compatible Video CD/SVCD disc without activating the PBC function, start playback with the PBC function, then press ■ to stop playback. The TV screen becomes all black. Then start playback in stop mode by using the **number keys** to choose the track, then press **ENTER**.

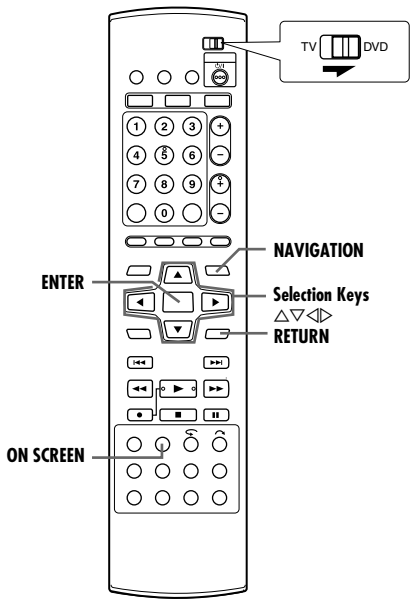
Using The On-screen Bar

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

The on-screen bar allows you to control various playback functions. Some of the functions operated on Navigation Menu can be controlled on the On-screen bar.

ATTENTION:
The on-screen bar can also be used for the HDD deck.

Be sure to clear Library Database Navigation screen by pressing **NAVIGATION**.

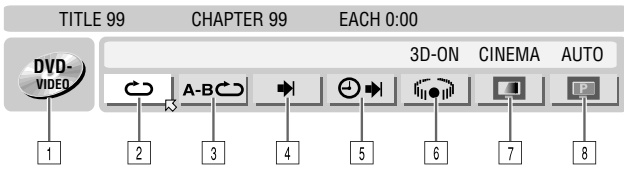


How To Access The On-screen Bar

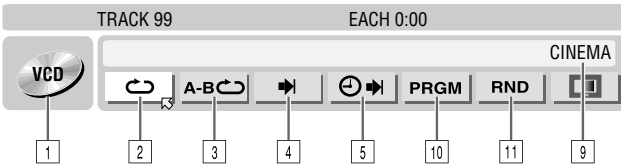
1 Press **ON SCREEN** twice whenever a disc is loaded.

Contents of the on-screen bar during playback

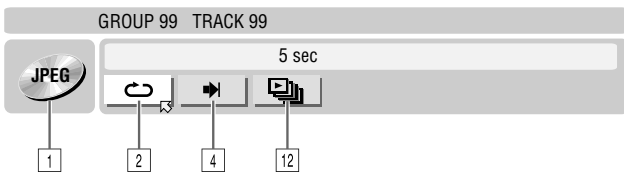
DVD VIDEO



Video CD/SVCD



JPEG disc



1 Disc type.
2 Select this for Repeat Playback. (See below)
3 Select this for A-B Repeat Playback. (☞ pg. 28)
4 Select this for search function. (☞ pg. 28)
5 Select this for time search function. (☞ pg. 29)
6 Select this to switch Simulated Surround Effect function. (☞ pg. 29)
7 Select this for Picture Control function. (☞ pg. 29)
8 Select this to switch picture source type. (☞ pg. 30)
9 Current status area for the selected item.
10 Select this for Program Playback. (☞ pg. 30)
11 Select this for Random Playback. (☞ pg. 30)
12 Select this to control the switching interval of the slide show. (☞ pg. 30)

NOTE:
Although examples of the on-screen bar are provided here only for 3 types of discs, the on-screen bar will be displayed for whichever disc indicated in the left column.

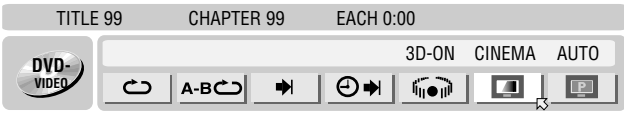
Basic Operation On The On-screen Bar

Example: When selecting Picture Control function of DVD

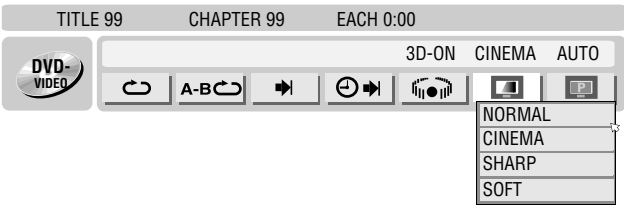
During playback or while stopped

1 Press **ON SCREEN** twice to access the on-screen bar. The item currently selected is highlighted and pointed by ⇖.

2 Press **selection keys** to select "▭", then press **ENTER**. The pop-up window appears under the selected item.



3 Press **selection keys** to select the desired option, then press **ENTER**.



To clear the on-screen bar
Press **ON SCREEN.**

NOTE:
See the corresponding pages for details on each menu item.

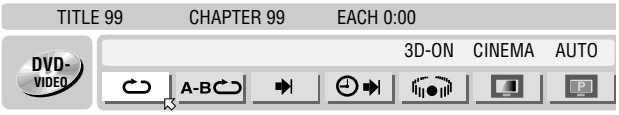
Repeat Playback

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

You can repeat playback as you like according to the type of disc.

1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "↻", then press **ENTER**. The pop-up window appears under the selected item.



3 Press **selection keys** repeatedly to select the desired Repeat mode, then press **ENTER**.

DVD-RAM/RW/R

OFF:
Repeat playback is not performed.

ALL REPEAT:
The whole disc is played back repeatedly.

TITLE REPEAT:
The current title is played back repeatedly.

DVD VIDEO

OFF:
Repeat playback is not performed.

TITLE REPEAT:
The current title is played back repeatedly.

CHAPTER REPEAT:
The current chapter is played back repeatedly.

Audio CD/Video CD/SVCD

OFF:
Repeat playback is not performed.

ALL REPEAT:
The whole disc is played back repeatedly.

TRACK REPEAT:
The current track is played back repeatedly.

JPEG/MP3

OFF:
Repeat playback is not performed.

FOLDER REPEAT:
The whole folder is played back repeatedly.

TRACK REPEAT*:
The current track is played back repeatedly.

** "TRACK REPEAT" cannot be selected for JPEG discs.*

To clear the on-screen bar
Press **ON SCREEN.**

To cancel Repeat Playback
Repeat the above procedure from step **1**, select "OFF" in step **3**, then press **ENTER**.

NOTES:
- Repeat Playback is not possible for a Video CD/SVCD with PBC function.
- Repeat Playback may not work properly depending on the type of the disc being used.
- It is possible to use the Mode Lock function. (☞ pg. 65)

A-B Repeat Playback

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

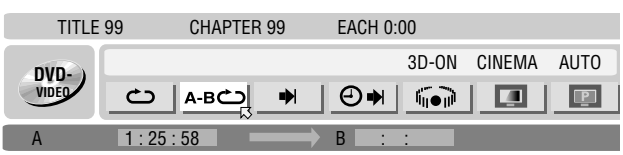
You can repeat the desired part.

During playback

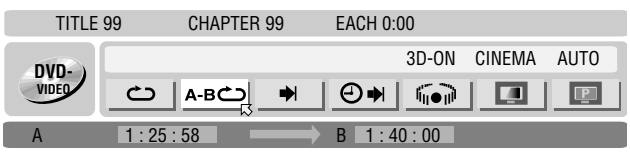
1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "**A-B** ".

3 Press **ENTER** at the beginning of the desired part you want to repeat (point A). The elapsed playing time of the point A appears.



4 Press **ENTER** at the end of the desired part you want to repeat (point B). The elapsed playing time of the point B appears.
- The selected part of the disc (between point A and B) is played repeatedly.



To clear the on-screen bar
Press **ON SCREEN.**

To cancel A-B Repeat Playback
Press **selection keys** to select "**A-B** ", then press **ENTER**.

NOTES:
- A-B Repeat Playback may not work properly depending on the type of disc being used.
- The subtitles recorded around the A-B point may not appear.
- When the end of the item is reached before the end point is set, the pop-up window disappears from the TV screen. In such a case, repeat the procedure from step **2**.
- The point B must be set at least 3 seconds after the point A.
- When playing back a DVD, A-B Repeat Playback is possible only within the same title.
- "**A-B** " cannot be selected during Program and Random Playback.
- "**A-B** " cannot be selected while stopped.

Locating The Beginning Of A Desired Selection

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

You can locate the beginning of a title, chapter, group or track.

During playback or while stopped

1 Press **ON SCREEN** twice to access the on-screen bar.

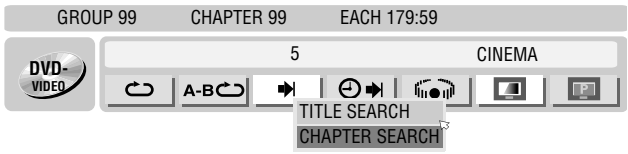
2 Press **selection keys** to select "▶|", then press **ENTER**.

3 Press **selection keys** to select the desired item, then press **ENTER**.
- Skip this step for Video CD/SVCD and Audio CD.

For DVD-RAM/RW/R, DVD VIDEO
"TITLE SEARCH" or "CHAPTER SEARCH" is selectable.
(However, "CHAPTER SEARCH" is not selectable while stopped.)

For Video CD/SVCD, Audio CD, JPEG, MP3
"TRACK" is selectable.

NOTE:
Settings that are selectable during playback and stop mode differ depending on the type of disc and search used.



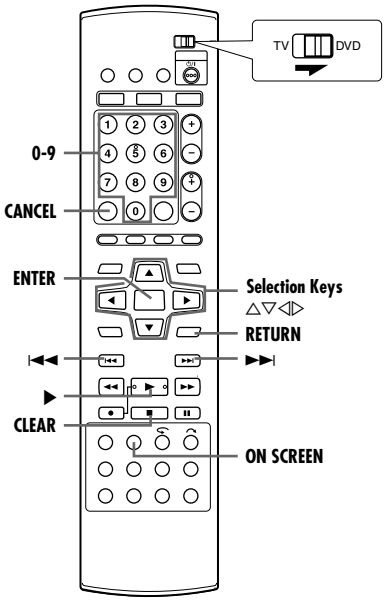
4 Press the **number keys** to enter the desired item number, then press **ENTER**.
- Playback starts from the selected section.

Examples:
1 To select track 5, press the **number key** "**5**".
2 To select track 15, press the **number key** "**1**" and "**5**".
3 To select track 25, press the **number key** "**2**" and "**5**".

If you have specified a wrong selection
Press **RETURN** on the remote control and repeat the above procedures from step **2**.

To clear the on-screen bar
Press **ON SCREEN**.

NOTES:
- When "⃠" is displayed on the TV screen in step **4**, the chapter you have selected is not contained in the disc, or chapter search does not work on the disc.
- Before you press **ENTER**, playback may start automatically when you enter the section's number depending on the disc.
- This function is not possible for a Video CD/SVCD with PBC function.



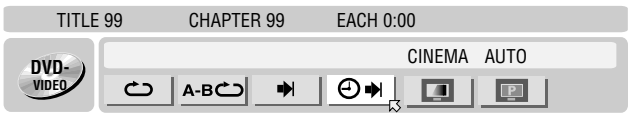
Time Search

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

You can play back a disc from the desired point by specifying the elapsed playing time from the beginning of a program (DVD-RAM, DVD-R, DVD-RW, DVD VIDEO and HDD) or a disc (Video CD/ SVCD and Audio CD).

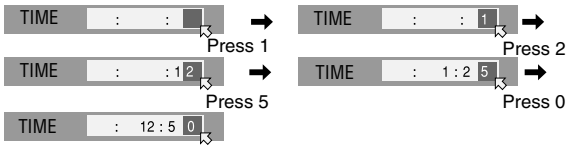
1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "⏲➡", then press **ENTER**. The pop-up window appears under the selected item.



3 Press the **number keys** to enter the time, then press **ENTER**. Playback starts from the specified time.

Example:
To play back from a point 12 (minutes): 50 (seconds) elapsed.



If you have specified a wrong selection,
Press **RETURN** on the remote control and repeat the above procedures from step **2**.

To clear the on-screen bar
Press **ON SCREEN.**

NOTES:

- When "⃠" is displayed on the TV screen in step **3**, you have selected a point that exceeds the recording time of the disc. However, for HDD; DVD-R/RW (Video mode) discs that have not been finalized; and DVD-R/RW (VR mode) discs, "⃠" will not be displayed and the last image (still) of the program appears on the TV screen.
- Some DVD VIDEO discs do not contain time information, and it is not possible to use the Time Search function. In such cases, "⃠" is displayed on the TV screen as well.
- This function is not possible for a Video CD/SVCD with PBC function.

Simulated Surround Effect

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

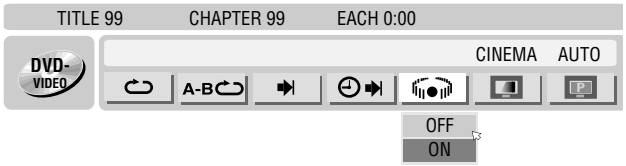
It is possible to get a simulated surround effect from your stereo system. You can enjoy the virtual surround sound with your 2-channel stereo system.

1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "🎧", then press **ENTER**.

3 Press **selection keys** to select "ON", then press **ENTER**.

- "3D-ON" appears above the selected item and Simulated Surround Effect is activated.



To clear the on-screen bar
Press **ON SCREEN**.

To cancel the simulated surround effect
Press **selection keys** to select "OFF", then press **ENTER** to clear "3D-ON" from the screen.

NOTES:

- Simulated Surround Effect works correctly only when playing back a title recorded in multichannels.
- Simulated Surround Effect does not affect the DVD VIDEO bitstream signal from the [DIGITAL AUDIO OUTPUT] connectors.
- When Simulated Surround Effect is activated, the settings of "ANALOG AUDIO OUT" and "D. RANGE CONTROL" are disabled. (☞ pg. 58)
- Simulated Surround Effect cannot be activated under the following conditions:
  - When the HDD deck is in the recording mode.
  - When a disc containing both the Dolby Digital 5.1CH and 2CH sound formats is playing back a scene that is not in the 5.1CH sound format.

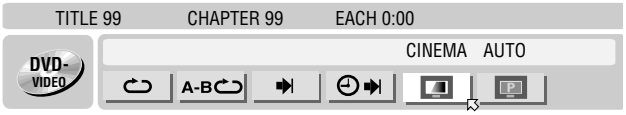
Adjusting The Picture Quality

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

You can obtain optimal picture quality by selecting an appropriate picture mode.

1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "▣", then press **ENTER**. The pop-up window appears under the selected item.



3 Press **selection keys** to select the desired option, then press **ENTER**.

NORMAL:
Normally select this option.

CINEMA:
Suitable for a movie disc, etc.

SHARP:
Clearer, sharper-edged picture when viewing images with lots of flat, same-colored surfaces such as cartoons.

SOFT:
Select this option when too much noise appears.

To clear the on-screen bar
Press **ON SCREEN.**

Setting The Progressive Mode

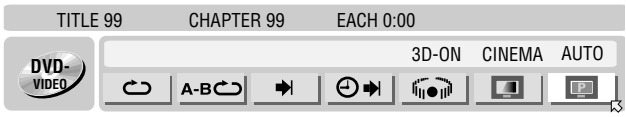
HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

You can obtain optimal picture quality by selecting whether the content on the disc is processed by field (video source) or by frame (film source).

1 Set the unit to the progressive scan mode. (☞ pg. 65)

2 Press **ON SCREEN** twice to access the on-screen bar.

3 Press **selection keys** to select "P", then press **ENTER**. The pop-up window appears under the selected item.



4 Press **selection keys** to select the desired option, then press **ENTER**.

AUTO:
This mode automatically detects film and video content for progressive playback. When film content is found, flag detection is used to invoke playback of film data in full screen. When video content is found, pictures from multiple fields are used to detect sections with movement, and then this movement undergoes advanced image processing for output of sharp, detailed progressive images without any reduction in image quality where movement occurs. Normally, operation in this mode is recommended.

FILM:
Suitable for playing back a progressive scanned film source disc.

VIDEO:
Suitable for playing back a video source disc. The outlines on the played back pictures will be soft.

To clear the on-screen bar
Press **ON SCREEN.**

NOTE:
Progressive scan is output only from [COMPONENT VIDEO OUT] connectors.

Program Playback

HDD DVD RAM DVD R DVD RW (VR) DVD VIDEO VCD SVCD Audio CD MP3 JPEG

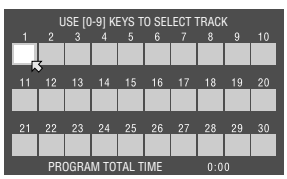
You can program up to 30 tracks (Video CD/SVCD or Audio CD) to play back in the desired order.

While stopped

1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "PRGM", then press **ENTER**. The program table appears under on-screen bar.

3 Press the **number keys** to enter the track numbers in the desired order.



Examples:
1 To select track 5, press the **number key** "**5**" and **ENTER**.
2 To select track 15, press the **number key** "**1**" and "**5**".
3 To select track 25, press the **number key** "**2**" and "**5**".

If you have specified a wrong selection
Press **CANCEL**. The last selection is erased.
Or press **CLEAR** (■). The whole selection is erased.

4 Press ▶. Playback starts in the programmed order.
- When all of the programmed tracks have been played back, Program Playback stops, but the programmed information remains.
- To add tracks to the end of the program, perform step **3**.
- During Program Playback, pressing ▶▶| skips to the next selection of the program. Pressing |◀◀ returns to the beginning of the current selection.

To clear the on-screen bar and the contents of the program
Press **ON SCREEN.**

To cancel Program Playback
Press **selection keys** to select "PRGM", then press **ENTER**.

NOTE:
Program Playback is not possible depending on the type of disc.

Random Playback

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

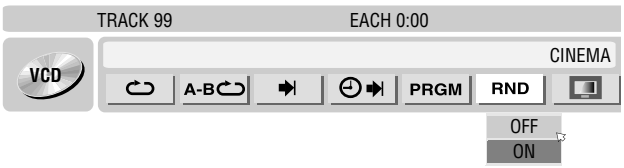
You can play back all the tracks on the disc in random order.

While stopped

1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "RND", then press **ENTER**.

3 Press **selection keys** to select "ON", then press **ENTER**. Playback starts in random order.



To clear the on-screen bar
Press **ON SCREEN.**

To cancel Random Playback
Press **selection keys** to select "OFF", then press **ENTER**.

NOTE:
The same track will not be played back more than once during Random Playback.

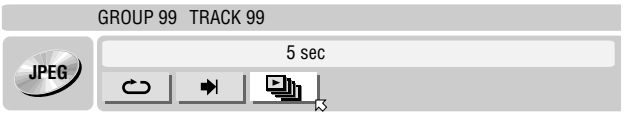
Select The Switching Interval Of The Slide Show

HDD DVD RAM DVD R DVD RW DVD VIDEO VCD SVCD Audio CD MP3 JPEG

You can control the switching interval of the slide show.

1 Press **ON SCREEN** twice to access the on-screen bar.

2 Press **selection keys** to select "", then press **ENTER**. The pop-up window appears under the selected item.



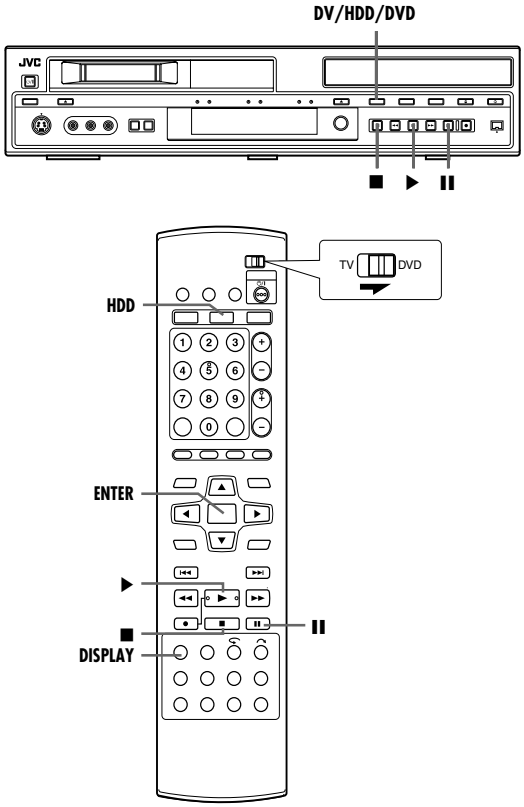
3 Press **selection keys** to select the desired option, then press **ENTER**.
- Each time you press the **selection keys**, the interval changes as follows:
5 sec ↔ 10 sec ↔ 15 sec ↔ 20 sec ↔ 25 sec ↔ 30 sec ↔ (Back to the beginning)

To clear the on-screen bar
Press **ON SCREEN**.

NOTE:
JPEG files are played back as a slide show. It may take more time to display an image with larger file size.

Basic Playback

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.



ATTENTION:
- It may take a few seconds to start playback. This is not a malfunction.
- Forward/reverse high-speed search and other operations cannot be performed while playback is stopped.

1 Press **DV/HDD/DVD** on the unit repeatedly or **HDD** on the remote so that the HDD lamp lights up on the unit.

2 Press ▶ to start playback.
- The Library Database Navigation also enables you to search and select the desired programs. (☞ pg. 39)

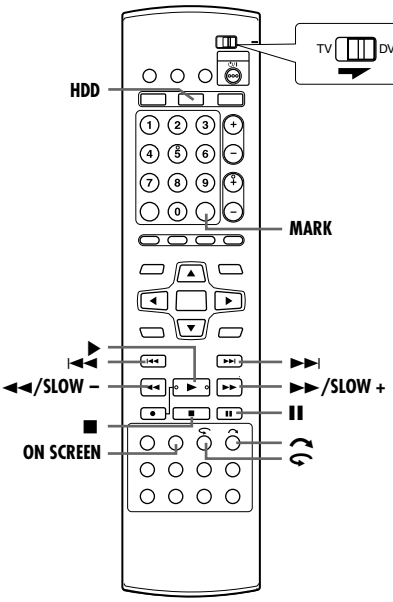
3 Press ❚❚ to pause playback.
- To resume normal playback, press ▶.

4 Press ■ to stop playback.

NOTES:
- When the Library Database Navigation screen appears, choose a thumbnail image of the desired title on the TV screen, then press **ENTER**. (☞ pg. 39)
- During HDD playback, the current title elapsed time is displayed on the TV screen when **ON SCREEN** is pressed. However, each press of **DISPLAY** changes the time display on the front display panel as follows:
  Current title elapsed time → Disc remaining time → Current title remaining time → (back to the beginning)
- It is possible to play back on the DV deck and the HDD/DVD deck simultaneously. However, either DVD or HDD can be played at the same time.

Playback Features

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.
- Press **HDD** so that the HDD lamp lights up on the unit.



Variable Speed Search

During playback, press ►► for forward variable speed search, or ◄◄ for reverse variable speed search.
- Each press of the button increases the search speed for each direction.
- To resume normal playback, press ▶.

Reverse ◄◄ ►► Forward

Reverse Search 5 steps					Reverse Play	Reverse Slow Motion 3 steps			Slow Motion 3 steps			Normal Play	Forward Search 6 steps					
–360	–60	–15	–5	–3	–1	–1/2	–1/4	–1/16	1/16	1/4	1/2	1	1.5	3	5	15	60	360

Still Picture/Frame-By-Frame Playback

1 Press ❚❚ to pause during playback.

2 Press **SLOW –** (◄◄) or **SLOW +** (►►) to activate frame-by-frame playback.
- Each press of **SLOW –** (◄◄) or **SLOW +** (►►) advances/reverses the still picture frame by frame.
- To resume normal playback, press ▶.

Slow Motion

1 Press ❚❚ to pause during playback.

2 Press **SLOW –** (◄◄) or **SLOW +** (►►) for 2 or more seconds.
- Each press of **SLOW –** (◄◄) or **SLOW +** (►►) increases the slow motion speed for each direction.

Skip Search

During playback, press ↷.
- Each press initiates an approximately 30-second period of fast-motion playback. Normal playback resumes automatically.

Instant Replay

You can move back the playback position slightly.
Press ↶ on the remote control or **INSTANT REPLAY** on the unit.
- Each press skips back for approximately 7 seconds and resumes playback.
- Pressing while paused skips back for approximately 7 seconds and resumes pause.

1.5x Speed Playback

You can play back a title quickly. The sound will also be played back faster than normal speed during 1.5x speed playback.
1.5x speed playback cannot be performed during recording on HDD or DVD.

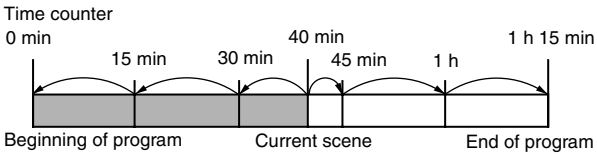
1 Press ◄◄ to locate the point to start 1.5x speed playback from.
2 Press ▶ to resume playback.
3 Press ►► once.
- Pressing **ON SCREEN** displays "X1.5" on the top right corner of the screen.

NOTES:
- When the unit is connected with a digital audio device using an optional optical cable, set "DIGITAL AUDIO OUT" to "PCM ONLY". (☞ pg. 26)
- For programs recorded in DV mode, 1.5x speed playback with sound is not possible.

Jump Search

You can locate a scene ahead or behind the current one by jumping scenes according to selected time intervals (☞ pg. 59) during playback (or Live Memory Playback).
Press I◄◄ or ►►I.
- To advance forward or back, press I◄◄ or ►►I repeatedly within 5 seconds of each press to continue jump.
- Depending on the time from where you want to start jump search, the first press of I◄◄ or ►►I will not necessarily lead to a jump of the selected time interval. The first press will lead to a jump to the nearest quarter points of an hour (15 min/ 30 min/ 45 min/ 00 min). The subsequent jumps will then be in accordance to the selected time interval.
- When you cannot advance any further (beginning or end of program reached), the message "UNABLE TO GO BACK ANY MORE" or "UNABLE TO GO FORWARD ANY MORE" appears on the screen. In such a case, press I◄◄, ◄◄, ►►, ►►I or ■.

Example:
Playback search when jump interval is set to 15 MIN jumps.
Taking for instance, you want to start jump search 40 minutes after the beginning of the program. Pressing I◄◄ or ►►I will result in a jump to the scene at the 30 minutes point or 45 minutes point respectively as illustrated below. At the subsequent press, the scene will jump to the 15 minutes point or 1 hour point respectively, according to the selected time interval, which in this case is "15 MIN".

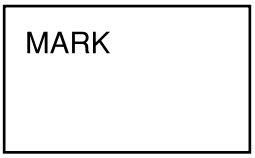


NOTE:
Jump search functions only when chapters (marks) are not set.

Marking Positions To Play Back Again Later

It is possible to mark positions (up to 999 points) where you want to play back once again later, and start playback from a marked position. Marking onto the disc when recording is helpful to locate a start point when you play back the disc later.

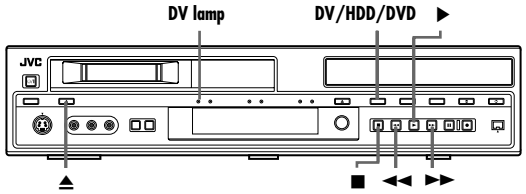
To mark positions:
During playback, press **MARK** at positions you want to mark.
- "MARK" appears on the TV screen. You can easily locate the marked positions using I◄◄ or ►►I when you play back the disc.

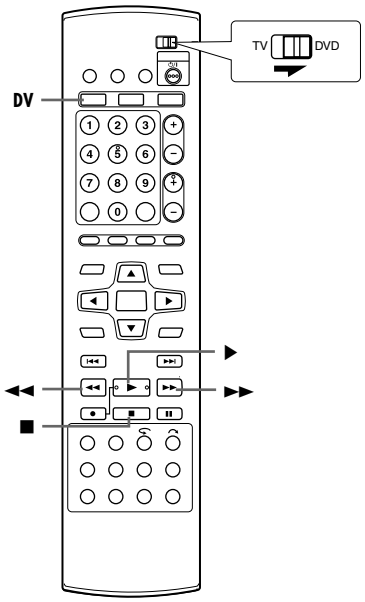


To delete the marked positions:
While paused, press I◄◄ or ►►I to locate a marked position you want to delete, then press **MARK**.
- Crossed "MARK" appears on the TV screen, and the marked position is deleted.

Basic Playback

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.





1 Load a cassette. Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the unit.
- Do not apply too much pressure when inserting.
- If the erase protection switch is set to "SAVE", playback begins automatically. It takes about 15 seconds until the playback picture appears.
- The unit's power comes on automatically.

2 Press **DV/HDD/DVD** on the unit repeatedly or **DV** on the remote control so that the DV lamp lights up on the unit.

3 Find the program start point. If the tape is advanced past the start point, press ◀◀. To go forward, press ▶▶.

4 Press ▶ to start playback.

5 Press ■ to stop playback.
- To eject the cassette, press ⏏ (DV). You can also eject the cassette when the unit is turned off.

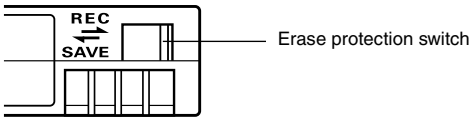
Clean the video heads using a dry cleaning cassette - M-DV12CL - when:
- No picture during playback.
- Block noise appears during playback.
- "USE CLEANING CASSETTE" appears on the screen.
- "U01" lights on the front display panel.

NOTES:
- The heads get dirty in the following cases:
  - in an environment prone to extreme temperature or humidity
  - in a dusty environment
  - flaw, dirt or mould on video tapes
  - continuous usage for a long time
- "U01" will also light on the front display panel when you attempt to play back a tape recorded with PAL signals. This unit cannot play back tapes recorded with PAL signals.

Usable cassettes
- Cassettes marked Mini DV can be used with the DV deck.
- Tapes recorded in the DVCAM format can be played.

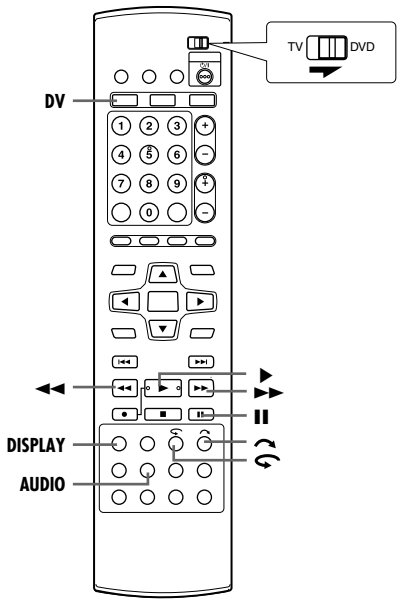
NOTES:
- When you record a tape on the DV deck with the recording speed set to "LP", it is recommended to play back that tape back on this DV deck. Digital video recorder from other manufacturers may not be able to play back the tape properly.
- It is possible to play back on the DV deck and the HDD/DVD deck simultaneously. However, either DVD or HDD can be played at the same time.

Accidental erasure prevention
To prevent accidental recording on a recorded cassette, set its erase protection switch to "SAVE". To record on it later, set the switch to "REC".



Playback Features

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.
- Press **DV/HDD/DVD** on the unit repeatedly or **DV** on the remote so that the DV lamp lights up on the unit.



ATTENTION:
In the search, still, slow-motion or frame-by-frame playback mode, a slight mosaic effect appears on screen.

Variable Speed Search

During playback, press ►► for forward variable speed search, or ◄◄ for reverse variable speed search.
- Each press of the button increases the search speed for each direction.
- To resume normal playback, press ►.

Reverse ◄◄ ►► Forward

Reverse Search 3 steps			Reverse Slow Motion 1 step	Slow Motion 1 step	Normal Play	Forward Search 3 steps		
–12	–4	–2	–1/5	1/5	1	2	4	12

Still Picture/Frame-By-Frame Playback

1 Press II to pause during playback.
2 Press II to activate frame-by-frame playback.
- To resume normal playback, press ►.

Slow Motion

1 Press II to pause during playback.
2 Press and hold II for 2 seconds, then release. Press II and release again to return to still picture.
- Press ►► for forward slow motion or ◄◄ for reverse slow motion.
- To resume normal playback, press ►.

Skip Search

During playback, press ↷.
- Each press initiates an approximately 30-second period of fast-motion playback. Normal playback resumes automatically.

Instant Replay

During playback, press ↶ on the remote control or **INSTANT REPLAY** on the unit. The unit rewinds the picture a little (about 7 seconds) and resumes playback.

Next Function Memory

The Next Function Memory "tells" the unit what to do after rewinding. Before continuing, make sure the unit is in the Stop mode.

For Automatic Start Of Playback
Press ◄◄, then press ► within 2 seconds.

For Automatic Cassette Ejection After Tape Rewind
Press ◄◄, then press ▲ (DV) within 2 seconds.

Soundtrack Selection

Your unit is capable of recording two soundtracks (L and R) and will play back the one you select.

During Playback
Pressing **AUDIO** changes the soundtrack as follows:

TRACK On-Screen Display	USE
L R	Both sounds on the left channel and the right channel are mixed and played back
L	Sound on the left channel is played back
R	Sound on the right channel is played back

To select the audio mode (**SOUND1**/**SOUND2**/**MIX**), refer to "AUDIO MODE" under "DV SET UP" (☞ pg. 60).

Time Code

During recording, a time code is recorded on the tape. This time code is used to confirm the position on the tape when playing back or editing a tape.

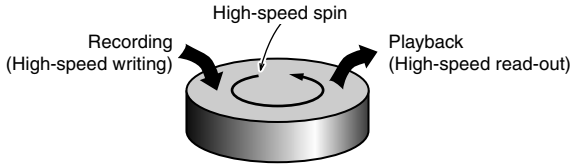
1 Press **DISPLAY** on the remote control or the unit until the time code on the tape appears on the front display panel and the TV screen.
- Each time you press **DISPLAY**, the indication changes as follows:
  Time code → Tape remaining time → Clock time → (Back to the beginning)

Live Memory Playback

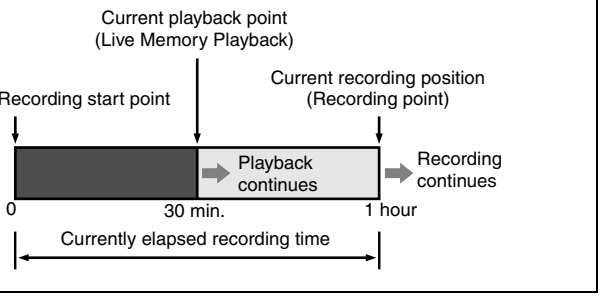
HDD | DVD RAM | DVD R | DVD RW | DVD VIDEO | VCD SVCD | Audio CD | MP3 | JPEG

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.
- Press **DV/HDD/DVD** on the unit repeatedly to select the HDD or DVD deck.

This unit records pictures onto the hard disk and DVD-RAM disc, instead of video tapes, then plays back the pictures recorded on the disc. This makes it possible to achieve high-speed writing and read-out that has not been possible with conventional VCRs, enabling recording and playback simultaneously.

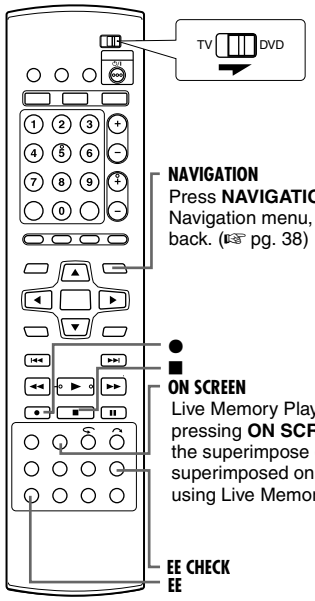


It is called "Live Memory Playback" to start playback of the program being recorded, with a time-lag between a recording point and a playback point, as shown in the figure below.



Not only can this unit play back a program previously recorded while recording another program, but the unit also allows you to play back from the beginning of a program while continuing to record the same program.

Recording/playback Status Display



NAVIGATION
Press **NAVIGATION** to display Library Database Navigation menu, then choose a program to play back. (☞ pg. 38)

●
■

ON SCREEN
Live Memory Playback status can be checked by pressing **ON SCREEN** to display the bar meter on the superimpose display. The current status is superimposed on the TV screen. (☞ pg. 16, "When using Live Memory playback")

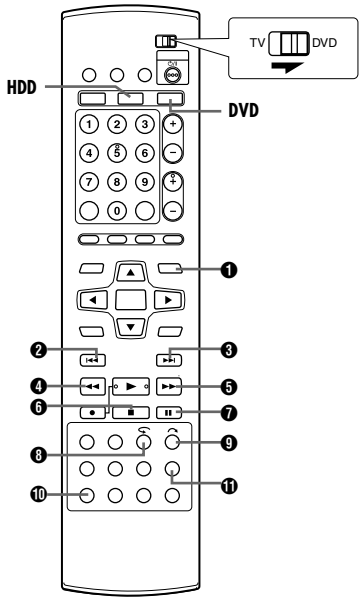
EE CHECK
EE

NOTES:

- Live Memory Playback could be performed approximately 30 seconds after recording has started on the DVD-RAM disc. However, for HDD, Live Memory Playback is possible right after recording has started.
- Although high-speed search up to approximately 30 seconds before the current recording point is possible during Live Memory Playback, once the current recording point is reached, the unit resumes normal playback and maintains a delay of approximately 30 seconds so that recording and playback can continue.
- Playback may be paused for a moment during Live Memory Playback, which does not interfere with recording.
- Live Memory Playback cannot be performed while recording the source from DV input. (☞ pg. 49, "DV Dubbing (HDD & DVD Deck Only)")
- When **EE CHECK** is pressed to display the picture currently being recorded, the picture size may not be correct.
- Press ■ or **EE** to stop Live Memory Playback.
- Live Memory Playback cannot be performed while the DVD deck is recording as temporary recording on HDD stops during recording on DVD.

Buttons To Be Used During Live Memory Playback

- Turn on the unit.
- Turn on the TV and select the AV mode.
- Slide the **TV/DVD** switch to **DVD**.
- Press **HDD** or **DVD** to select the desired deck for Live Memory Playback.



1 NAVIGATION
Displays Library Database Navigation menu. You can choose a title to play back.

2 |◄◄
- Pressing once skips back to the beginning of the chapter being played back.
- Pressing down for 2 or more seconds during playback reverses playback at 5 times the normal speed while pressed. Releasing the button resumes normal playback.
  Available only when paused
- Pressing down for 2 or more seconds reverses playback at 1/16 times the normal speed. Releasing the button resumes normal playback.
  Backward Jump
- Each press of the button during Live Memory Playback jumps back for the selected time interval and resumes playback. (☞ pg. 32, “Jump Search”)

3 ►►|
- Pressing once skips forward to the beginning of the next chapter being played back.
- Pressing down for 2 or more seconds during playback advances playback at 5 times the normal speed while pressed. Releasing the button resumes normal playback.
  Available only when paused
- Pressing down for 2 or more seconds advances playback at 1/16 times the normal speed. Releasing the button resumes normal playback.
  Forward Jump
- Each press of the button during Live Memory Playback jumps forward for the selected time interval and resumes playback. (☞ pg. 32, “Jump Search”)

4 ◄◄
- Each press of the button during playback advances the playback speed in 6 steps in the reverse direction.
  Available only when paused
- Each press of the button reverses the still picture frame by frame.
- Pressing down for 2 or more seconds reverses playback at 1/16 times the normal speed. Then, each press of the button reverses slow-motion at 1/16 times, 1/4 times and 1/2 times the normal playback.

5 ►►
- Each press of the button during playback advances the playback speed in 5 steps in the forward direction.
  Available only when paused
- Each press of the button advances the still picture frame by frame.
- Pressing down for 2 or more seconds advances playback at 1/16 times the normal speed. Then, each press of the button advances slow-motion at 1/16 times, 1/4 times and 1/2 times the normal playback.

6 ■
- Pressing once during Live Memory Playback or RetroActive Recording returns to the external input screen.
- Pressing twice during recording stops recording and returns to the external input screen.

7 ❚❚
- Pressing once pauses playback (still picture playback).
- Pressing repeatedly advances the still picture frame by frame.

8
It is useful when watching sports programs, etc.
- Each press skips back for approximately 7 seconds and resumes playback.
- Pressing repeatedly skips back for approximately 7 seconds continuously as many times as pressed.

9
It is useful when skipping over unwanted sections.
- Pressing once skips forward for approximately 30 seconds and resumes playback.
- Pressing repeatedly skips forward continuously as many times as pressed.

10 EE
Returns to on external input screen. When a confirmation message appears by pressing this button during title editing, etc., follow the instruction to return to the previous screen.

11 EE CHECK
You can check, for example, if the program you are recording has already finished.
- Pressing once displays the picture currently being recorded and the one being played back simultaneously.
- Pressing successively clears the Live Check window and displays only the picture currently being played back.